JULY
17
1959

PETROLEUM WEEK

A McGRAW-HILL PUBLICATION

Oil and gas are replacing coal in steelmaking operations..... 27

Oil firms start political programs..... 9
Sahara oil poses marketing problems... 10
Radioactive gas traces field drainage... 18
Testing through casing is paying off... 21
Refinery, urea plant in unique swap.... 28
Marketers study motorists' habits..... 30
Persian Gulf has three discoveries..... 34
Gasoline improves, but 'needs help'.... 40

Price 50 Cents

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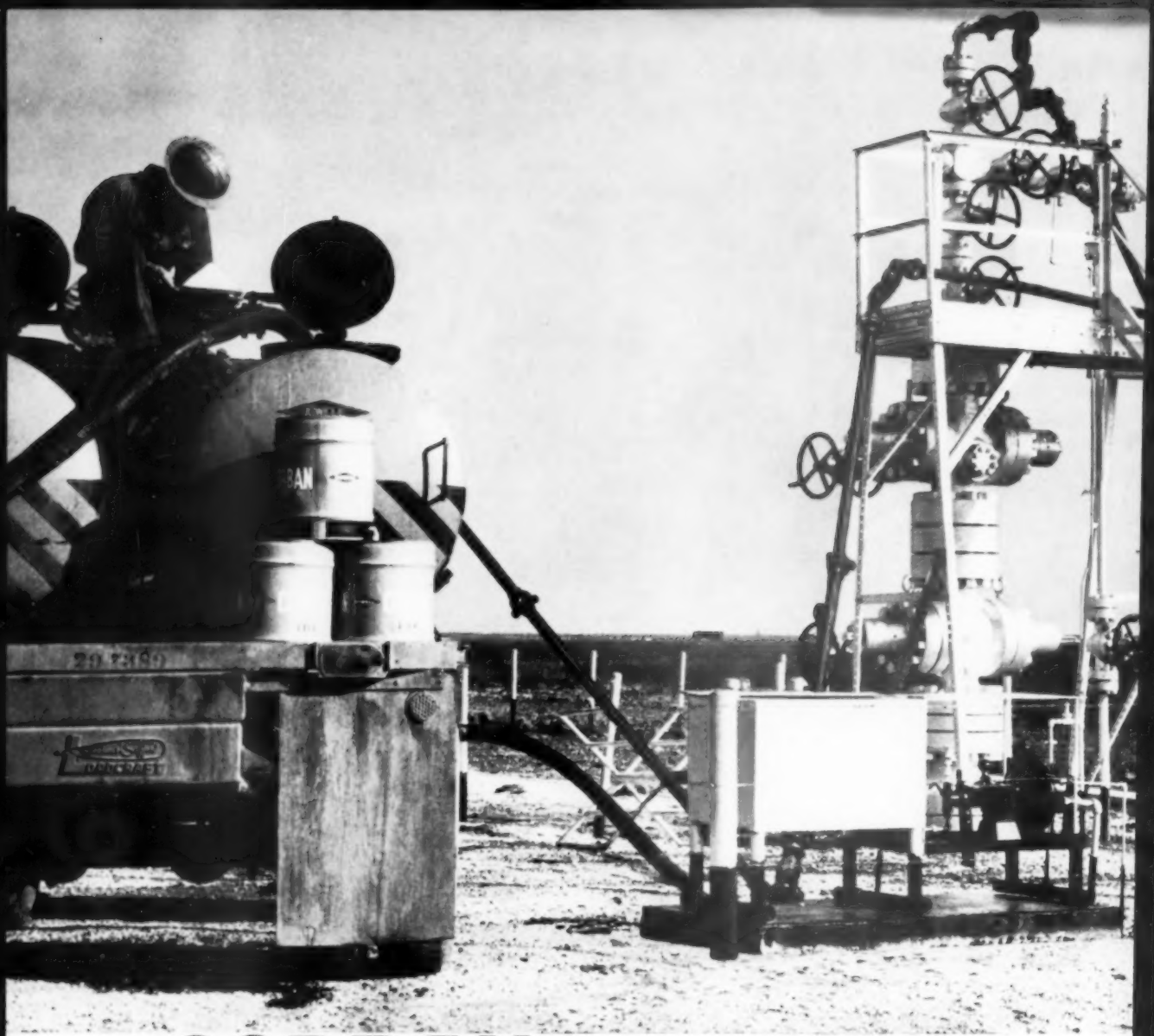

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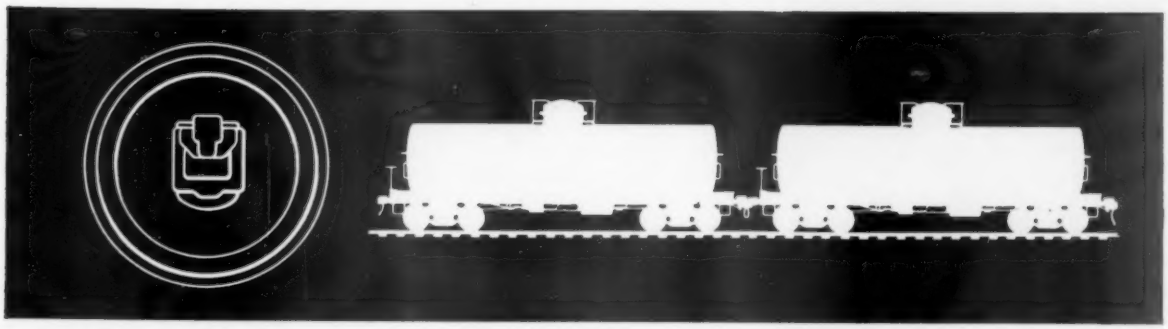

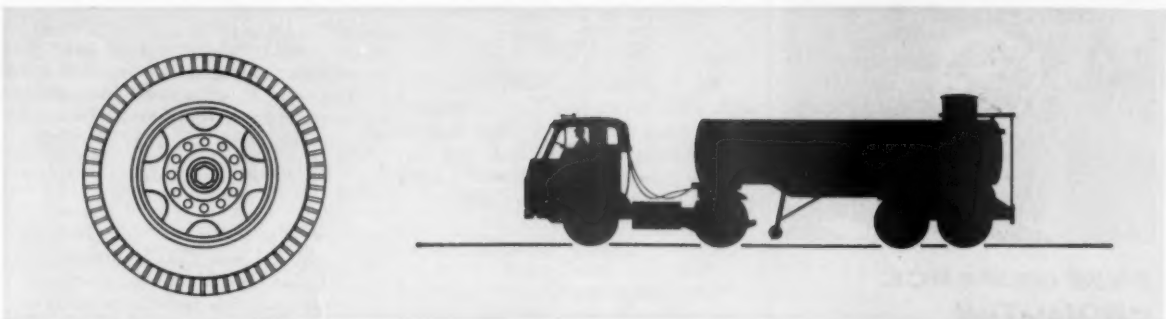

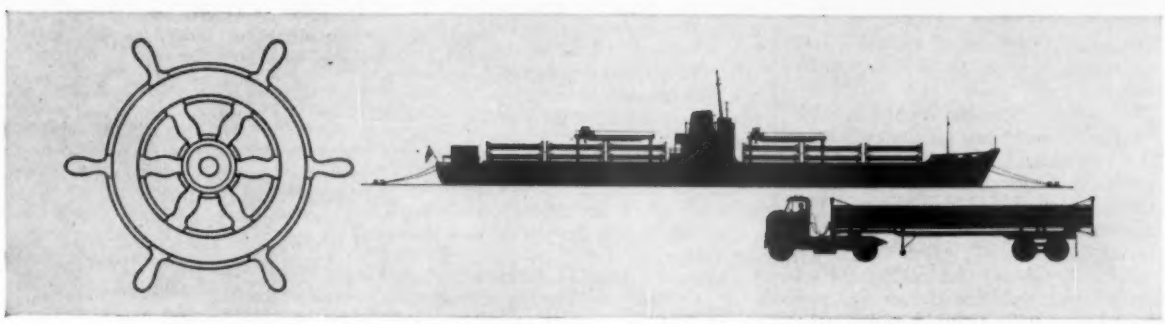

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DEPT/Opinions

Views That Make News . . .

"The nation's recent losses in export markets are extremely disturbing. During 1958, for example, steel exports from the U.S. decreased 40%. Our own company had a first-hand illustration of why this is happening. We can purchase from either Japan or Europe pipe to be delivered in the Argentine for $23 a ton less than the same pipe costs delivered at the mill in Pittsburgh."

—REESE TAYLOR
Chairman
Union Oil Co. of California

"There is nothing more permanent than a temporary tax. The 'temporary' excise taxes which were imposed in 1933, during World War II, and during the Korean War, are now a fixed part of the federal revenue system."

—DONALD C. O'HARA
Asst. General Counsel
National Petroleum Assn.

"The complete artificiality of S-215 [price prenotification bill] and its dangerous implications to small business, as well as to the large corporations at which it is aimed, show up in other ways than in price wars. Let us suppose the bill passed, and later [a jobber] found it imperative to raise the tank wagon price for gasoline to dealers. The law would not require a jobber to give notice of an increase, or to wait 30 days before making it effective. [A jobber] would have little chance of making any increase hold up while one or more competitors was prevented by law from making a similar increase."

—JOHN J. SCOTT
General Counsel
Socony Mobil Oil Co.

"We cannot all hope to become experts on depletion, but our very attitude about it is going to have a great bearing on how our associates and friends outside the industry feel about it. If we approach this as we should, on the basis that percentage depletion is a tremendously important provision for the public interest, for the welfare of every individual citizen of this country, then we can do a good job in explaining why it is important."

—RICHARD J. GONZALES
Director & Treasurer
Humble Oil & Refining Co.

"There would be no deficit in the Highway Trust Fund if federal automotive taxes already being collected from vehicle owners were not used to subsidize other government functions. In fiscal 1958, a total of 42¢ out of every dollar in federal automotive taxes went into the general fund of the Treasury instead of into the Highway Trust Fund."

—S. D. BREITWEISER
Executive Vice-President
DX Sunray Oil Co.

. . . and Letters

Dear Sir:

Your article "New Fuel Drying for Safer Jet Flying" [PW—Jun.26'59, p34] indicated the heat of adsorption of water in molecular sieves is 1,500 Btu. per lb. of water. Your decimal point must have slipped, since I am sure the figure must be 150 Btu.

E. D. ERMENC
Food Machinery & Chemical Corp.

• We stand by our decimal point. Linde Co., a division of Union Carbide Corp., which developed the technique, is quite emphatic that the heat of adsorption of water in molecular sieves is higher than for any other known adsorbent. But even silica gel would have a heat of adsorption of 1,100 Btu. per lb. of water.

Dear Sir:

Oil Producers Agency of California never was a party to the [West Coast antitrust] suit as you reported [PW—Jun.26'59,p14]. Since it did not name us as a party, the government obviously did not ask for our dissolution.

The Conservation Committee of California Oil Producers . . . is not and never has been a committee of Oil Producers Agency. It is a separate and distinct organization.

Oil Producers Agency of California is a trade association of independent producers in California; the Conservation Committee of California Oil Producers . . . confines its activities to matters bearing upon oil conservation in this state.

There is no connection or affiliation between the two organizations.

STARK FOX
Executive vice-president
Oil Producers Agency of California

PETROLEUM WEEK *will publish reader comments each week. Address letters to LeRoy Menzing, Editor,* PETROLEUM WEEK, *330 W. 42nd St., New York 36, N. Y.*

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INSIDE *Slant*

HAVE OPINIONS CHANGED?

Are independents changing their opinions on the effectiveness of the mandatory imports control plan?

A speech before a recent meeting of the State Bar of Texas raises this question. It was made by John Davenport, general counsel of the Texas Independent Producers & Royalty Owners Assn.

His opinion was that the program has "yet to establish its merit in restoring the health and vigor of the domestic oil producing industry."

Davenport said that the program's intended benefits have "not yet become fully apparent."

And he termed "one of the most ominous of the multiple consequences" the increased measure of control over production and prices of crude by the federal government.

His conclusion was that "the mandatory oil imports control program represents radical surgery on the domestic oil industry, but it may yet save the seriously sick patient."

Davenport's speech is in contrast to a resolution adopted at TIPRO's annual meeting, which gave unqualified support to the program, and offered help to maintain its provisions.

LeRoy Menzing
EDITOR

Creole Petroleum Corporation of Venezuela, one of the world's largest producers of crude oil, has pursued a dedicated course of conservation and maximum utilization of Venezuela's natural resources. In so doing, complex engineering problems in gas injection have been created.

An organization of the magnitude of Creole can readily command the very best engineering and construction talent available . . . and Brown & Root felt signally honored when in 1952 they were awarded a contract to design and construct a 60,000 horsepower gas injection station, to be located 7 miles from shore in Lake Maracaibo. The job was loaded with "firsts" and superlatives. For example, it was the first time centrifugal compressors were ever used to compress gas to 2000 p.s.i. This tremendous amount of horsepower was to be housed on a platform in 62 feet of water, with all the related problems of vibration, corrosion, noise and self-containment.

Evidence that the client was pleased with this $20 million project came when Brown & Root was awarded a contract to design and construct Conservation Plant Tía Juana Two of 84,000 horsepower, and then again Brown & Root was successful in obtaining the design and construction contracts for Tía Juana Plant Three of 98,000 horsepower. Conservation Plant Bachaquero One, Creole's fourth repressuring station, is currently on Brown & Root's drawing boards.

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60-Second Summary / WHAT'S HAPPENING IN OIL

AT-A-GLANCE PETROLEUM WEEK Copyright

July 17, 1959

dept/INDEX

Production	17
Transportation	32
Processing	27
Marketing	30
Washington	15
Statistics	39
The Market Trend	40
Key Prices	41
Editorial	44
International	34
Personals	38
Service & Equipment	42

The petroleum industry's steel inventories appear in good shape. Operators generally report a four-to-six week supply, but specialty items could grow tight. . . . p. 13

•

Sahara oil and ambitious French marketing plans are adding up to big problems for international oil companies. The French are driving for self-sufficiency and the government has the power to do so. . . . p. 10

•

Oil marketers can't agree on how to stimulate gasoline demand. A Petroleum Week survey has turned up several areas of conflict as stocks continue high during the peak consumption season. . . . p. 30

•

Oil and gas are pushing coal right in its own backyard. Steel makers are expressing considerable interest in petroleum fuels as a substitute for coal. . . . p. 27

•

Drainage patterns in the Spraberry Trend are being tested with radioactive krypton. It's expected to save time and money in preparation for a waterflood project. . . . p. 18

•

Gulf Oil Corp. has made its long-awaited plunge into active politics. And other companies indicate they are getting aboard the "political education" bandwagon. . . . p. 9

•

An impressive record has been racked up in field use of a new wireline tool. Formation tests through casing have been made in wells at depths up to 12,000 ft., and the success ratio is high. . . . p. 21

•

A new plant is scheduled to produce 73,000 tons of urea annually. It is being built in Delaware, and will use ammonia from a Pennsylvania refinery and natural gas from Texas. . . . p. 28

•

Discoveries continue to be made in the Persian Gulf area. Three scattered but significant finds are giving emphasis to the vast potential of this oil-rich region. . . . p. 34

•

A critical shipping problem for petrochemicals may have been solved. Two companies have developed portable containers for ocean and overland shipments. . . . p. 32

•

Crude output from small fields has reached surprising proportions, accounting for 87% of total U. S. production. . . . p. 11

Up to the Minute / SIGNIFICANT LATE NEWS

AT-A-GLANCE PETROLEUM WEEK Copyright

July 17, 1959

A long steel strike will have a big impact on the oil industry. Oil's steel supplies are adequate for a while (page 13), but:

- **With 85% of its capacity shutdown, steel's use of petroleum fuels will drop sharply.** It normally uses about 150,000 b/d of residual fuel and an equivalent energy volume of natural gas.

- **Fuel oil consumption by other industries will gradually decline,** as the steel stoppage causes industrial activity to taper off. Some diesel-consuming rails have already started layoffs.

- **Gasoline demand probably will feel some of the effects, too.** Striking and furloughed employees normally don't resort to vacation driving.

- **And the hardest long-range blow will come from possibly higher steel prices,** which steel companies insist would be axiomatic with a hike in steel wages.

•

Some major companies say gasoline stocks are "all right." That was the opinion given the Texas Railroad Commission this week, even though commission data show stocks 21.5-million bbl. above what most companies term the "desirable" level.

•

Domestic crude output in August will probably average about 6.9-million b/d, or about the same as expected for all of July. Both Texas and Louisiana will hold their August allowables to present schedules.

Louisiana will continue its proration formula at 34% of the March, 1953, depth brackets, permitting a small increase for new production. Texas will keep a nine-day producing pattern, with the initial permissible set at 2,700,164 b/d, unchanged from mid-July. Indiana Oil Purchasing, now taking only 40% of the allowable from its connections on the Texas Gulf Coast, said it could use nine days next month if strikes at three affiliated refineries are over.

•

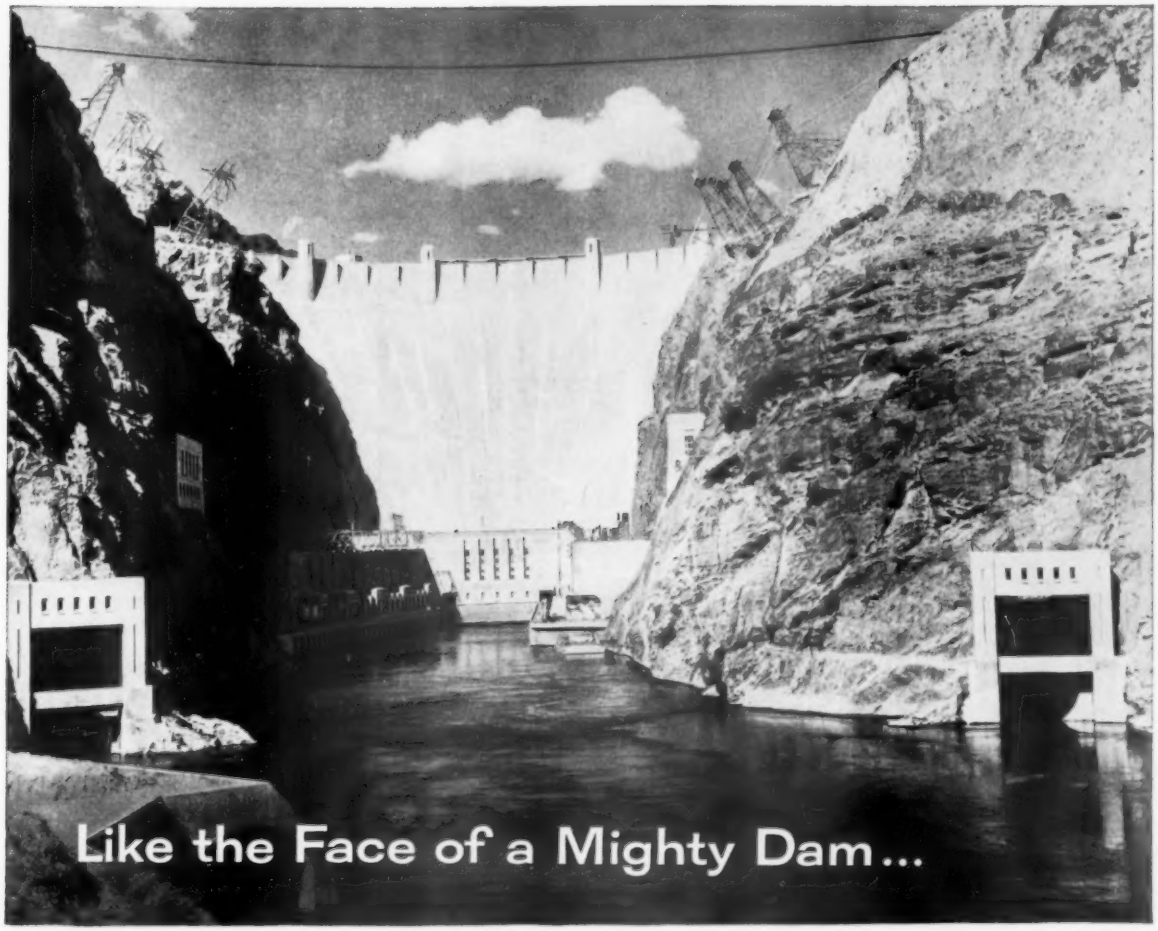
Indiana Standard has joined a Spanish government entity in seeking exploration tracts in the Spanish Sahara, according to a National Institute of Industry spokesman in Madrid. Two unidentified U. S. firms and a French government-controlled company are included in the group.

•

President Eisenhower feels that the interstate highway program will be hurt by any compromise on motor fuel taxes. He still wants an increase from 3¢ to 4½¢ per gal. He indicated that a smaller boost would cut highway building.

•

A test of union strength will come in two weeks at Humble's Baytown (Tex.) refinery. About 3,300 workers will vote Aug. 6-7 in a three-way contest among the Oil, Chemical & Atomic Workers, the Teamsters Union, and the Baytown Employees Federation.



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OIL'S FIRST CENTURY BORN IN FREEDOM WORKING FOR PROGRESS

Factories hum . . . jobs are created . . . commerce thrives, thanks to abundant, low-cost power. Viewing the face of a dam, however, these facts are often forgotten . . . obscured by the mighty spectacle of the dam itself.

Also forgotten . . . if known at all . . . are the facts of oil company enterprise, making it possible to drive confidently into a service station with an order to "fill 'er up." Who thinks then of far-off drilling crews, thousands of miles of pipelines, giant refineries, a fleet of supertankers, or modern research laboratories?

Yet the job could not be done without all these things. To do its share in serving the nation, Cities Service has invested a billion dollars in modern facilities...and to be ready for the even bigger job of tomorrow, it is constantly expanding. In two years, Cities Service has spent over $350 million on its progressive program.

Only in this way can America be given what it must have for progress—more jobs, more and better petroleum products.

CITIES SERVICE

Ask Me A Question

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No mere calculator, the 650 can retain 20,000 digits of information (including Core Lab's vast storehouse of reservoir knowledge), remember instructions, and follow them with logical ability as it adds, subtracts, multiplies, and divides.

Put into service only recently, the system has already indicated the attainability of many new horizons of reservoir data application — a clean break through the barrier of manual limitations.

Whether your well or field problem involves the use of basic or special core analyses, fluid analysis, secondary recovery investigation and planning, reserves study and evaluation, or pure research, Core Lab's 650 now contributes its sophisticated talents to the project.

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Gulf Swings into 'Active Politics'

Gulf Oil Corp. announced its "do-it-yourself" political program this week—and there seemed little doubt that the details will stir up as much interest as its first announcement.

Gulf disclosed its intentions to take an "active interest in practical politics" last September (PW—Sep.19'58, p110).

Two months later, Gulf said it had received 30,000 requests for reprints of the internal letter which outlined its plan. In addition, a flood of letters from top executives, in and out of oil, large and small, proposed cooperative tie-ins (PW—Nov.7'58,p17).

The Gulf program isn't the only one in the works, however.

Industry circles report that other leading companies are taking or considering similar action. But they are saying nothing about it publicly for the present.

All have the same general objective —to alert employees and the public to political problems and conditions that may affect their welfare and the employers' operations.

The Gulf program will "encompass everything from the local to the national level that politically affects the company's ability to do business."

Heaviest emphasis will be placed on the local community. It will involve establishment of regional or area political supervisors, who will function with one purpose in mind: What is good for a community or region must be good for Gulf.

The program will insist that this personnel work with local political leaders and elected representatives.

This will lead to mutual understanding and benefits, Gulf feels.

Significantly, Gulf observed:

"Local political leaders are the men who frequently become our national leaders; if we can reach them in an atmosphere of mutual, constructive, community action, we are bound to gain a larger and more sympathetic ear in national and state legislatures."

An office in Washington will be established soon.

This office will be staffed by a legislative analyst, who will register formally as a lobbyist; and a political writer, who will double as a public relations representative.

The national office will prepare dossiers on all congressmen in states where Gulf has interests. These will be parceled out to the regional representatives.

The dossiers will include not only voting records but everything that could assist the regional people in obtaining complete knowledge of their representatives.

The Washington operation will include a steady run of political information and educational materials.

Among these will be a biweekly news letter summarizing all legislative activities affecting oil. The news letter will be written by "a respected, objective Washington news source." It will include an analysis prepared by Gulf's political representative giving the company viewpoint. It will be distributed to Gulf employees down to the level of district manager.

The program is political but nonpartisan, and stresses a do-it-yourself technique.

The company says the nonpartisan basis is a "must." Employees will be encouraged to become effective voices in a political party of their own choice. Recognition of particularly outstanding civic or political activities by employees will be given in company publications.

Wives of employees will also be urged to aid the program's objectives.

Gulf's Archie D. Gray

The reason for it all is "realization that in our political system any political program can be effective only to the degree that it reaches down to the roots of all our politics —to the people who vote and who urge others to do likewise."

That's the way Archie D. Gray (picture), senior vice-president, explained the program in a letter to employees and stockholders. He said:

"We have seen the development of a situation in which Gulf—and the industry—has been subjected to increasing attack while, in the political climate of our times, it increasingly has been denied a fair hearing. We do not fear scrutiny, we only ask that it be fair—based on sound logic and a competent understanding of oil economics.

"Gulf's management believes that if it tells the story of what is happening to this corporation in national and local legislative halls to its shareholders, employees, dealers, and friends, and at the same time encourages them to take a more active part in politics, the result can only be good for the interests of both the individuals and the corporation.

"When adequately informed, people generally can be relied upon to vote for, and work for, the best interests of their community and country."

Specific examples of harassment and encroachment were cited by Gulf.

"Over recent years," Gray told employees and stockholders, "we have watched the steady growth of a governmental attitude toward industry generally, and toward the oil industry in particular, that can only be described as one of creeping encroachment.

"Our ability to import oil produced as a result of substantial investments of Gulf's money and initiative in foreign lands has been arbitrarily curtailed by administrative decree.

"Our ability to claim a tax adjustment to compensate for the inevitable exhaustion of our principal asset—crude petroleum in the ground—is under severe and sustained attack by members of Congress who do not, or do not choose, to understand the complex necessities of petroleum economics."

France Will Push Use of Sahara Oil

France, with ambitious marketing plans for its Sahara oil, has become a thorn in the side of the international petroleum companies.

Stated simply, France, a long-time have-not country in terms of oil, hit a bonanza with the discovery of the Hassi Messaoud field in the French Sahara. With a productive area of more than 620 sq. mi. so far, the new area already is being compared to a good-sized Middle East field (PW—Jul.3'59,p36).

The area is being developed by two companies in which the French government owns a substantial interest: SN Repal (Soc. Nationale de Recherches et d'Exploitation des Petroles en Algerie) and CFPA (Cie. Francaise des Petroles Algerie). The government owns 81% of SN Repal. And Cie. Francaise des Petroles, owned 35% by the government, has an 85% interest in CFPA.

There are other producers in the French Sahara outside of the Hassi Messaoud field, but even in those companies the French government has a strong position. For instance, Creps (Cie. de Recherches et d'Exploitation de Petrole au Sahara) has production in three fields in eastern Sahara. The government has a major interest, and the Shell Group owns 35%. And the government-controlled Societe Nationale des Petroles d'Aquitaine has gas production at El Gassi.

Such an ownership gives the French government an effective control over production and marketing policies of Sahara oil.

The French aim is petroleum self-sufficiency, and the government has told the international companies operating in France as much. And it has the power to insist on it.

Petroleum processing and marketing in France is done by seven groups. Two French companies own 45% of the refining capacity and control about 40% of the market.

The remaining refining capacity and about 55% is divided among French affiliates of five international companies—Jersey Standard, Caltex (Standard of California and Texaco), Socony Mobil, British Petroleum, and the Shell group.

A few small French independents share the remaining 5% of the market.

If it so desires, the French government can force refiners to take Sahara oil. A 1928 law gives the government strict control over oil imports, under a quota system, with each refiner set with a quota for a 13-year period.

When quotas come up for revision, the government has the right to favor companies that have cooperated in using French crude—and punish others.

A refiner with a quota far below his market requirements, for instance, would have to take French oil or be short in supply.

The government also can exercise effective control over foreign-exchange allocations to companies operating in the country; since without government authorization, no importer can purchase crude.

So far, the government has only asked the companies officially to take a "maximum" of Sahara crude, without setting a specific volume.

PETROLEUM WEEK's Paris bureau has learned that the volume that all companies have been "asked" to take may amount to between 70% and 80% of the estimated Sahara production in the coming years.

A glance at the table (left) will show that by 1965 even 70% of the officially forecast production would be almost equal to the total anticipated demand in France and its possessions, leaving little room for "outside" oil.

And the international companies operating in France privately agree that they will have to take whatever volume the government asks.

They could, of course, pull out of the French market—but there is more involved than just the French market. Affiliates of the five international companies also have exploration permits in France or in French territories, which could be revoked.

With the government in a position to change its request to a demand that French refiners use Sahara oil, the only issue to be settled is the price to be paid. And that's the big fight that's developing.

The French government, representatives of the international companies in Paris say, has been willing to keep its discussions on the required taking of Sahara oil on a "friendly" basis. The government has, in effect, re-

THE SAHARA PIPELINE to the Mediterranean is nearing completion. By October, the 413-mi. line is scheduled to handle 80,000 b/d from the Hassi Messaoud field.

French Plans Are Big

The French Bureau de Recherches de Petrole estimates that crude production from the French Sahara will soon top probable demand in France and its overseas territories. Its forecast shows (in b/d):

Year	Sahara output	French demand
1961	440,000	700,000
1962	580,000	735,000
1963	700,000	770,000
1964	860,000	805,000
1965	1,000,000	840,000

frained from discussing its powers to force Sahara oil on the refiners; instead, it has sought amicable agreements.

But price is another matter.

The government so far appears to be driving a hard bargain on price, insisting on only a limited discount off a relatively high posting.

The posted price—in reality the government's price—for the 43.6-gravity Hassi Messaoud crude is $2.77 a bbl., f.o.b. the Algerian port of Philippeville.

The government's position is that the price is calculated on the usual world basis and is comparable to the posted price of similar-quality crudes elsewhere.

But the prospective buyers say the price is far too high—some use the word "unrealistic."

But as the negotiations over price get down to serious business, it now appears that, after much haggling, the maximum discount will be 15¢ a bbl. off the posting—a price that still won't set too well with the international companies—each with its own supply of Middle East oil.

Once the price is established, more problems will crop up. Some of them are of such a nature that the government may be forced to adopt a more liberal attitude on its plans for marketing Sahara crude.

The immediate problem is a processing one. French refineries just aren't equipped to handle the high-gravity, sweet Hassi Messaoud oil.

They were designed to process lower-gravity Middle East crudes, with a relatively high sulfur content. A switch to the Sahara crude would make some costly desulfurization units and catalytic reformers unnecessary.

Also the pattern of French demand so far calls for anything but high-gravity oil.

French consumption trends show a heavy demand for residual fuel oil for industry, but a much lower demand for middle-of-the-barrel distillate cuts and for the lighter motor fuel cuts.

But the demand trend could change. Sales of residual fuel have sagged in recent months as the rate of economic expansion has slackened. And competition for industrial fuel markets has been increased by natural gas production from the Lacq field in southwestern France.

Pipelines are gradually being built to take the gas to the major industrial areas.

Gasoline consumption in France has been held artificially low by high taxes, which make French motor fuel prices among the highest in the world.

Every time a French motorist pays the equivalent of 76¢ a gal. for "ordinary" fuel, or 80¢ for premium gasoline, the government pockets 75% of the price.

Petroleum marketers in France generally believe sales would soar if taxes were reduced.

But for the time being the government isn't planning any tax cuts.

The most serious problem, though, is the long-range one of where all the Sahara oil will be marketed.

If the government estimates are right (many oil men are inclined to believe the "planned" production figures are high) Sahara production will outstrip French demand in the near future.

For the present, the government will be satisfied just to have French oil used in the franc zone, to eliminate the need for costly foreign oil imports that have imposed a burden on French foreign exchange for years.

Also, petroleum self-sufficiency within the French territories would free the nation from dependence on Middle East oil, which the government feels could be used as a political club by the Arab nations. The Algerian war has strained the relations between France and those nations.

But when the time comes that Sahara production exceeds French needs, experts are guessing that it will have to find markets in Europe and the U.S.

The government at one time had high hopes that its Sahara production might find outlets in the U.S. It believed that the international companies would be in a position to arrange crude trades so that the higher-gravity Sahara crude could be shipped to the U.S., where demand for gasoline and distillates is high. France, in turn, could pick up the lower-gravity crudes most suitable for its market.

But mandatory import controls in the U.S. have killed some of these French hopes for its Sahara production becoming a major factor in the U.S. market.

International oil men don't rule out Sahara oil being used in the U.S. however.

The French government will have to learn the hard economic facts of the international oil market, though, if its Sahara oil is to be competitive.

In Europe, for example, France and five neighboring countries are linked in the Common Market, which began operation this year. The six member countries are committed to free trade across national borders, which will eventually result in existence of a single market of 165-million people.

So it will be difficult in the long run for France to require French refiners to buy Sahara crude at a fixed, relatively high price, while refiners in other Common Market countries are free to buy crude from the lowest-priced source.

Protecting French oil markets from Common Market imports by tariffs would be in violation of the treaty, to which the government is pledged.

And, of course, France couldn't very well ask its Common Market partners to take Sahara crude on a priority basis if prices were higher than other sources.

Biggest Output from Small Fields

Small fields—those producing less than 25,000 b/d—currently account for 87% of the nation's crude.

A close look at the American Petroleum Institute's weekly statistical report reveals that, in June, the smaller fields produced 5.9-million bbl. of the total output of 6.8-million bbl.

Small fields normally account for most of the production, but the June ratio is higher than usual.

More surprising, however, are the twin facts that only 18 U. S. fields averaged more than 25,000 b/d in June—and that eight of these are located in California.

The California production is more striking when it is considered that the API statistical report lists only nine fields in that state separately. The others are in a catch-all group.

Texas, the country's most prolific source of crude, had only five fields producing 25,000 b/d or more in June. Colorado, Illinois, Louisiana, Utah, and Wyoming each had one.

Oklahoma had none, although combinations and trends did put three big areas in a field perspective. These were Burbank, Golden Trend, and Sho-Vel-Tum. The same applied to Montana, where output from all Williston Basin fields was lumped together.

Recent figures for the various fields are these:

California: Buena Vista 26,100; Coalinga 68,900; Cuyama 40,300; Huntington Beach 50,300; Midway Sunset 36,100; San Ardo Group 30,-

100; Ventura Avenue 51,400; Wilmington 75,500.

Texas: East Texas 141,000; Hawkins 29,500; Goldsmith-5600 27,350; Kelly-Snyder 51,900; Wasson 27,500.

Oklahoma: Burbank 30,270; Golden Trend 28,664; Sho-Vel-Tum 65,370.

Colorado: Rangely 45,950; Illinois: Louden 32,350; Louisiana: Caillou Island 36,200.

Montana: Williston Basin 37,800; Utah: Aneth 31,850; Wyoming: Elk Basin 51,200.

There's no doubt that most fields could boost their output easily and rapidly. State allowables, conservation practices, and oversupply are the constricting factors presently.

The Texas allowable for June was 2,904,414 bbl., based on a ten-day producing schedule. Louisiana has a depth-bracket formula—with a provision for new production.

Current stocks of crude are high now—so much so that there is increasing pressure for a breathing spell to bring them into line.

Crude stocks currently stand at 270.6-million bbl., substantially above the 253.6-million bbl. that industry officials believe to be desirable.

The natural gas pricing problem:

If Not Cost-of-Service, Then What?

If the Federal Power Commission adopts a cost-of-service approach to gas producer regulation, just how will individual producer prices be set?

The question has been imminent since the U. S. Supreme Court decided in 1954 that FPC indeed had jurisdiction over producer gas rates.

Now, with the landmark Phillips Petroleum Co. case still pending before FPC, the price problem looms as one of the most important natural gas issues in recent industry history.

FPC is faced with a strong argument by examiner Joseph Zwerdling that cost-of-service should be used in determining gas rates to be charged by Phillips Petroleum Co. (PW—Apr.10'59,p9).

In his recent Phillips ruling the examiner contended that a cost method is workable, and that application of costs could provide equitable prices.

But Zwerdling was immediately concerned only with the Phillips rate case. He adopted a uniform, companywide rate approach. Simply, he added up Phillips' total production costs in all fields, divided this total cost figure by the amount of gas at issue, and came up with a price per thousand cubic feet. He rejected the idea of fixing separate prices for each producing area, as urged by the FPC staff and some intervenors.

Zwerdling indicated that the same method he applied to Phillips need not necessarily be applied to all producers in every particular. For example, Zwerdling recommended a 9.25% rate of return for Phillips. If his general cost approach is accepted by FPC, varying percentages of return might be—probably would be—applied in other cases.

Many gas industry experts argue that the cost-of-service concept cannot be extended to large and small producers alike.

The formula might well work for large producers, some attorneys practicing before FPC believe, but it might put small producers out of business.

More and more producers are telling FPC that uniform pricing is unworkable.

An example of this thinking came recently in testimony in a Tidewater Oil Co. case by Roger L. Conkling, a consultant with H. Zinder & Associates, Inc., a leading gas advisory firm.

Conkling testified that industry prices will be in a "state of confusion, turmoil, and continual change" if FPC insists on uniform pricing.

He predicted sweeping industry price changes, coming at varying intervals, with practically all contract prices being altered.

Approaching the pricing problem with a utility or eminent domain concept, Conkling and others say that differential pricing is acceptable in many regulated utility industries. Under differential prices—prices tailored for a specific sale—FPC would be able to permit a producer to charge purchasers varying prices.

In contrast, uniform pricing would require a set price for all buyers.

"Uniform pricing is unscientific and is not usually followed in the utility industries," Conkling testified, except for transit fares in some cases and small telephone operations.

In the case of utilities, rates are approached both from two viewpoints: cost-of-service—such as for pipelines—and value-of-service—such as for telephone rates.

Essentially, value pricing is a method based on the value of the commodity or service to consumers, but restricted to a "just and reasonable" range by a regulatory body. Costs are considered, but are not the only factor.

The telephone industry best illustrates the application of value pricing to rates. The costs of the various types of services in the telephone industry are so intermingled, Conkling argues, that to unscramble them would involve "so many allocation assumptions as to constitute a meaningless mathematical exercise."

FPC is being advised to examine closely the historic field pricing practices of natural gas in its consideration of producer prices.

The typical pattern has been that producers and pipelines sell and purchase under numerous contracts, entered into periodically, with differences in prices from contract to contract.

And, he says, some factors which affect producer prices cannot be evaluated in quantitative terms. He lists the date of sale, the volume of gas, the duration of the contract, the supplier's price flexibility, the purchaser's flexibility of use, dependability of supply, and other factors.

Conkling claims that the rate design method in the examiner's Phillips case decision is a "trial and error process" which fails to touch all bases.

If not uniform pricing, what is the alternative?

Says Conkling: "No alternative price system can be proposed in the absence of thorough studies of all aspects of the price problem. The cost-of-service determination is not and can never be a substitute for the price determination.

"If a new pricing system is to be seriously considered, it should be soundly based and adequately developed."

Until FPC can make up its mind on how to determine individual producer prices, most companies want to stick with arm's length bargaining as at least an interim measure.

FPC can adequately exercise price regulation through control of over-all rate levels and by policing the results of arm's length bargaining, producers claim.

Oil Has Four-to-Six-Week Steel Stock

A steel strike poses no immediate threat for the oil industry.

Buyers have been loading up for some time, and one steel source says many companies already have bought one-third to one-half of their normal third-quarter quotas.

In other words, many oil companies have enough tubular goods on hand to weather a four-to-six-week strike before any real pinch is felt.

General speculation is that a steel strike would have to last 60 days or more before inventories and other supplies would be cleaned out.

Shortages of specialty products, and the need for substitutions, may cause problems, however.

A month-long strike could force oil companies to change plans or make substitutions.

What this means is that prescribed shapes and sizes may not be available, despite the fact that the inventories themselves are large.

Specialty products — particularly high-tensile-strength steel—usually are kept in short supply, and any abnormal run on these could precipitate scattered trouble spots.

Down-river inventories undoubtedly would be even larger than they are now except for a barge strike along the Ohio and Mississippi rivers.

One Pittsburgh steel firm says the barge strike, which started within the past two weeks, has hampered shipments down stream. As a result, tubular goods have piled up in the area.

The material is out of the plant, however, and presumably shipments could be made once the barge strike is settled.

Another Pittsburgh steel maker says the barge strike hasn't affected his shipments to any great degree.

Oil men are far from pessimistic about oil country supplies.

"We're going to run short of certain things, but we're trying to take care of our customers' needs for the next six weeks," says a supply house operator.

The vice-president of a large firm that manufactures oil industry goods says, "We'll be all right if the strike doesn't last too long.

Another manufacturer says a steel strike "won't affect us as far as the manufacture of our equipment is concerned, because we make our own steel."

Two large gas transmission firms volunteered that they had ample stock for present construction.

An independent producer says: "We'll tighten our belt a little, and take a close look at each well we drill. The suppliers have always been fair in allocations, but the small producers may be hit first. The really bad part of a strike is that it usually leads to another increase in the price of steel."

A major company spokesman says, "Assuming we won't receive any further deliveries of steel, we can drill for 40 to 60 days."

And another major company spokesman puts it this way: "With all the advance indications of a possible strike, we should be shot if we got caught short on inventories."

A Texas drilling contractor says that a "long-drawn-out affair could hurt us," but for the present he has plenty of drill pipe on hand.

If the steel companies win their hold-the-line battle with the union, the likelihood is that there'll be no increase in the price of tubular goods.

One steel man says flatly: "There'll be no price increase this year." He says the "steel industry is determined not to increase wages or do anything else that would result in higher consumer prices for steel products."

Steel negotiators in New York have been adamant on that point right along.

This would be the first break in years for oil companies, which have had steel price boosts so regularly they are becoming annual events.

Steel prices have increased in nearly every year since the end of World War II. Here are some figures on recent years: 1955, up $8 to $16.75 a ton; 1956, up $9.50 to $21.25 a ton; 1957, two increases, $4.50 to $7 a ton in February and $8 to $15.50 a ton in July; 1958, up $7 to $10 a ton.

It's anybody's guess how long a steel strike will last.

Estimates range up to six weeks on strike talk. But one steel company president, speaking informally to some friends last week, was quoted as saying that "this one will be a long, bitter one if it goes on at all."

Oil Man's Album

Early Wells Frequently 'Rained' Oil

Lack of equipment to withstand high pressures resulted in many a soaked drilling crew in the past. The "formal" pose above was after a Sinclair affiliate brought in its No. 2 well in Mexico's old Panuco field in April, 1923. It flowed 14,000 b/d of 12-gravity crude with a high gas ratio.

(No. 32 of a Petroleum Week series.)

What's New / IN THE INDUSTRY

Competition in East Coast fuel oil markets is stepping up with majors taking over more smaller companies. The latest move is Texaco's plan to acquire Paragon Oil Co., which was expected to be completed this week on an exchange-of-stock basis, reportedly eight Texaco Inc. shares for one share of Paragon. The move to expand market outlets (PW—Jun.26'59, p15) will give Texaco a direct entry into both home and industrial fuel oil markets from Maine to Maryland. In addition, the company will gain Paragon's import allocation of 57,705 b/d of residual and 1,052 b/d of light products. Also involved in the transaction are Paragon's tankers and its oil-burner manufacturing affiliate.

•

Panhandle Eastern Pipe Line Co. can continue making interruptible sales of natural gas to 16 industrial consumers in the Midwest. A Federal Power Commission decision gives certification to Panhandle's sales to nine industrial customers in Michigan, Illinois, and Indiana. FPC also approved an extension of previously authorized sales to industrial customers in Missouri, Ohio, Illinois, and Indiana.

•

A dispute over job-classifications is at the heart of strikes at three refineries of Indiana Standard and American Oil. Plant manager B. F. Babin, of American's Texas City (Tex.) plant, charged the Oil, Chemical & Atomic Workers union with "featherbedding" demands. He referred to OCAW's objections to having workers perform tasks outside their professions.

Speaking of that strike and those at El Dorado, Ark, and Sugar Creek, Mo., an OCAW spokesman said that Indiana Standard's stand on work assignment clauses strikes at the heart of the craft-lines system. At the Sugar Creek plant, supervisory personnel are running the plant at 25% of capacity, about 20,000 b/d.

Meanwhile, a strike was averted at Lion Oil's El Dorado plant when the union agreed to a two-year contract granting a 3% wage boost, plus an additional 6¢ an hour. Lion management also granted a "letter of intent" to the union, agreeing not to cross craft classification lines unless it is "essential to the efficient operation of the plant."

•

Tidewater Oil and Skelly Oil are actively discussing their proposed merger. According to Tidewater's president, George F. Getty, representatives of both companies have held several meetings so far. Among the problems to be ironed out: evaluation of assets, restatement of earnings on a common basis, and forecast of future earnings. Getty said that the merger would produce a "better balance" between Skelly's excess crude capacity and Tidewater's excess refinery capacity.

•

The Swedish Aspeco process for extracting oil from shale will be tested in a semicommercial plant for four months. Oil Shale Corp. within the next few weeks will start up its Colorado plant, which can process from 1,200 to 2,400 tons daily. For the past two years the company, working with Denver Research Institute, has operated a 24-ton-a-day pilot plant to prove out the process.

•

Mac L. Coker, Texas Railroad Commission engineer, will leave next month to help Venezuela set up an oil proration system. Following a request from the Venezuelan government, the Texas commission granted Coker a six-month leave to work with Venezuela's Office of Hydrocarbons.

Looking Ahead in Washington

Mc-Graw-Hill
Washington
Bureau
July 17, 1959

The gasoline tax controversy is going to be heightened—starting with public hearings next week. The House Ways & Means Committee will start hearing testimony Wednesday on President Eisenhower's proposal to raise the federal gasoline tax, indefinitely, 4.5¢ per gal.—a 1.5¢ increase. The decision to hold hearings was made by Chairman Wilbur Mills (D., Ark.), backed by House Speaker Sam Rayburn (D., Tex.), after Eisenhower reportedly turned down a Democratic compromise on taxes.

A parade of witnesses will testify against an increase in the federal tax. Highway user groups and the oil industry will be in the forefront of the opposition. Administration officials will testify in behalf of the Eisenhower increase, but they will be outnumbered and outtalked.

Democrats hope to force Eisenhower into a corner—make him accept a lower, short-term tax. The hearings will be used to demonstrate to the administration the strong opposition to higher gasoline excises. Then, Democratic leaders feel, Eisenhower will have to buy a compromise: an increase of 0.5¢ or 1¢, for one year.

•

Oil jobbers are actively fighting "fair trade" legislation. Otis H. Ellis, general counsel of the National Oil Jobbers Council, told the Senate Interstate & Foreign Commerce Committee that a proposed fair trade law would "wreak havoc in the distribution of petroleum products." The jobber opposition to the legislation will be used by anti-fair trade congressmen to show a split in the small-business community on the bill's merits. Odds still are against enactment of a fair trade law in the current session of Congress.

•

The Labor Dept. is starting a special survey of wages and fringe benefits in petroleum refineries. The department's Bureau of Labor Statistics has started preliminary field work on the survey. Many refineries will be visited. Results of the survey are expected to be made public early in 1960. Preliminary data showing averages for selected job classifications may be known in November.

•

The use of electronic computers for making major management decisions is being studied by oil companies. A Washington firm contracted with several major oil companies to make an extensive operations research study of computer use, with the prospect of automating front-office decisions. Computer experts believe electronics can, for example, determine the best transportation method to be used or the most efficient amount of production required on a long-term basis, and can take much of the risk out of other management decisions.

•

The Oil Imports Administration is weighing a decision on Puerto Rican imports. Imports Administrator Matthew V. Carson, Jr. is faced with varying recommendations from Puerto Ricans. Gov. Luis Munoz Marin and one refiner want unrestricted imports of crude and unfinished oil into the island, but limitations on the amount of products shipped to the U. S. mainland. Another refiner told Carson he would not object to crude oil curbs if they could be waived for a refiner who restricts mainland shipments of products.

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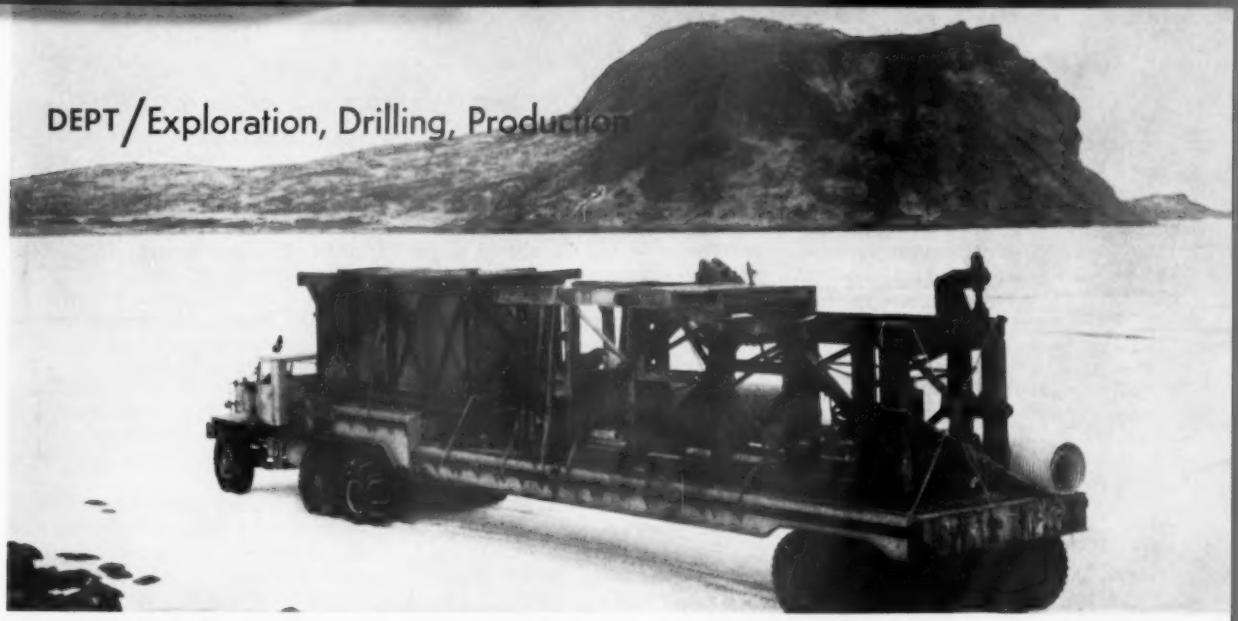


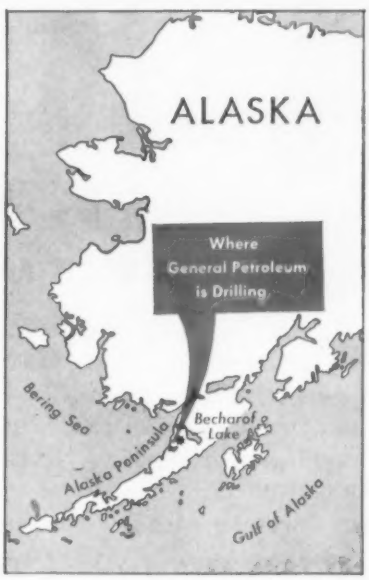
DRILLING EQUIPMENT is hauled past Lake Becharof's Gas Rocks (background), enroute to General Petroleum's wildcat site.

LOADING of the power unit onto a 60-ton truck is easy, but . . .

HAULING is another matter. A tractor helps in this terrain.

Alaskan Drilling Poses New Challenges

OLD TOOLS, used in a wildcat drilled 35 years ago, are near the present site.



The difficulties, and hazards, encountered in Alaskan drilling are captured to some extent in these pictures of General Petroleum Corp.'s No. 1 Great Basins Petroleum Co.-Becharof, more than 300 mi. northwest of Anchorage.

Equipment for the venture was transported by huge trucks from Jute Bay, a part of Shelikof Strait, in the Gulf of Alaska, 65 mi. southeast. The rig and camp facilities used by Humble Oil & Refining Co. in its unsuccessful wildcat at Bear Creek, just above Jute Bay, were taken over by GP for its Becharof wildcat.

A "road" was pushed to the GP site through mountain passes, over streams, across lakes, and through the tundra. Wind-driven snow and thawing tundra hampered movement of the equipment. (It took eight days to cover the 65 mi.)

Rowan Drilling Co., of Ft. Worth, is contractor on the job.

Radioactive gas used in . . .

New Drainage Study at Spraberry

Krypton 85, a radioactive isotope of the inert gaseous element, is being used in an oilfield application for the first time to determine drainage patterns in the Spraberry Trend of West Texas.

Injection of the radioactive gas was started recently by a four-man crew from the Bureau of Mines Petroleum Experiment Station, at Bartlesville, Okla.

The work is being carried out in close cooperation with Southland Royalty Co., of Ft. Worth.

Southland, with about 20 other Spraberry operators, is proposing an extensive waterflood project in the southeast sector of the trend.

Data from the tracer survey will assist oil company engineers in determining the most effective method of conducting the flood.

The Bureau's work is being done under the direction of J. Wade Watkins. Southland's H. M. Harris, district engineer at Midland, is coordinating the oil companies' interests.

Economy and time are the major factors behind the decision to use a gas tracer in the Spraberry rather than the more commonly used solution tracers.

In the past, similar surveys (usually using water tracers) have in most cases been conducted after the flood was established, and frequently after breakthrough had occurred.

Water tracers have been the logical choice in these cases. This is so because their resistance to adsorption by the reservoir matrix generally has proved somewhat greater than that of gas.

But, says Harris, "in this instance, nothing short of a complete pilot flood would have been effective had we attempted to use a water tracer."

Months rather than weeks probably would have been required for the water tracer to reach the producing wells, and much more elaborate injection equipment would have been necessary.

Only 170 compressor hp. is being used to inject the radioactive gas.

Radioactive krypton was selected for the Spraberry project after studies showed it to be one of the best-suited gaseous elements for oilfield tracer work.

Past surveys sometimes have been rendered inconclusive by failure of sufficient quantities of tracer to reach the producing wells.

It has been fairly well established that absorption by reservoir fluids and adsorption by solid reservoir material are the primary causes behind these failures.

Krypton's easy detectability with radioactivity-recording instruments, plus its low solubility in oil and its minute particle pressure tend to indicate that it will be ideal for tracer work.

In addition, the element's half-life of approximately 9½ years also is advantageous. (A half-life is the time required for half of the atoms of a radioactive element to disintegrate). This is neither so short as the 9-day half-life of radioactive iodine, nor so long as the thousand-year half-life which characterizes some of the more stable radioactive elements.

Previous surveys conducted with gaseous elements have included the use of methane gas with tagged car-

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P. O. Box 1184 Houston, Texas

bon atoms. In at least one survey, helium was used at the tracer. In the latter instance, no radioactivity was used. Instead, a quantitative analysis was made of the produced gas to reveal the presence of the helium.

Acetylene has been used in a similar manner.

Radioactive iodine has been the most commonly used solution tracer. Antimony 124, Iridium 192, and Silver 110 also have been used successfully.

A carefully planned program preceded injection of the first curie of krypton.

For two weeks before the bureau's field crew arrived on location, Southland injected varying quantities of natural gas into the reservoir. In addition to checking out compressor equipment, this helped prepare the reservoir in the immediate vicinity of the injection well.

One curie of krypton is being mixed at the wellsite with 220 cu. ft. of natural gas to facilitate dispersal throughout the formation.

One "slug" of krypton and natural gas will be injected each week for up to ten consecutive weeks, although initial breakthrough may come much sooner.

The Bureau is prepared, however, to continue the project for three or four months if necessary.

The well chosen for injection purposes is located in the center of a 9-spot pattern, with producing wells being located three to the side on 80-acre spacing.

A Bureau of Mines mobile field unit—designed specifically for tracer survey work—is being used. It includes a highly sensitive radioactivity-detecting device.

In laboratory tests, this equipment has been found capable of detecting one curie of krypton per 100-million parts of gas.

It is believed that even a radical departure from this laboratory ultimate under actual field conditions will still allow a high degree of accuracy in detection.

The data developed in the tracer survey will be used in locating input wells and in setting up an efficient flood pattern for the proposed 15,000-acre Spraberry flood.

The acreage to be flooded is located some 10 mi. northwest of the small town of Stiles.

The Spraberry formation is a very tight, low-permeability sandstone, which owes its oil-producing capabilities to vertical fractures.

An exact determination of these fractures, especially in regard to direction of drainage, is a necessity for any secondary recovery program in the area.

The Spraberry operators reportedly are planning on a tentative starting date of sometime next spring for the waterflood, although they concede a longer preflood period may be required.

Texas Railroad Commission approval for the flood has not yet been sought, nor has any working agreement been entered into by the various operators.

Each working interest, however, is supporting the survey with a proportionate cash contribution.

Southland, as major working interest in the proposed flood area, was selected to represent the other interests for the duration of the survey, and probably will be chosen as unit operator for the flood.

Results of the Krypton 85 study may have significant bearing on several other waterfloods proposed for Spraberry.

At least six units, covering the bulk of Spraberry production, have been proposed, or considered, in the past year or so (PW—Jun.13'58,p22).

Million-Dollar Rig Shipped to Alaska

A million-dollar drilling rig, reportedly incorporating every new device available, is being shipped to Alaska. It'll be used in drilling a Richfield Oil Corp. wildcat in the Yakataga area.

The rig was assembled in Bakersfield, Calif., by Clyde Hall Drilling Co., which will drill in Alaska under contract to Richfield.

Richfield holds a development contract with the federal government covering 489,622 acres in the Katalla-Yakataga area, which lies along the coast of the Gulf of Alaska, in the southeast part of the state.

The new rig—a National 110 with a 142-ft. Lee C. Moore mast—is rated for depths to 20,000 ft. with 4½-in. drill pipe.

Its three Waukesha V-12 engines will develop over 2,000 hp.

The rig has a gyro fluid drive, to transmit power to the pumps and drawworks, all National units. Auxiliary rotary drive allows the balance of power not needed for the rotary table to be transmitted to two slush pumps, a G-1,000 B, rated at more than 1,000 hp., and an auxiliary pump, a National C-350.

A National 6 micromatic drilling control is incorporated in the drawworks.

Testing Through Casing Succeeds

The new method of testing formations through casing with a wireline tool is being credited with an impressive record in field use.

Schlumberger Well Surveying Corp. last fall announced the first successful formation sampling job through casing with the wireline tool, a modified version of the basic tool already proved in open hole testing.

Up until development of the new tool, the usual way of evaluating a sand that had been open cased off was with a conventional drillstem test through perforations.

To date, testing through casing with the wireline tool has resulted in a reported success ratio of 91.3%.

All kinds of tests—gas, oil, water, and dry—have been made at depths ranging from 1,200 ft. to 12,000 ft.

Interpretation of the results of the Formation Tester, as the tool is called, depends almost entirely on the oil and gas recovered.

Whether the well will produce oil or gas is determined by plotting the oil recovery against the gas recovery on an "interpretation chart."

Schlumberger says more than 600 confirmed tests on the Gulf Coast have shown the "chart" to be accurate more than 96% of the time.

"The cased hole formation test has been more definitive than the open hole test," says Schlumberger, "because to date no mud filtrate has been recovered" in tests through the casing.

"For this reason, all fluids recovered other than mud have been indicative of final production."

A more powerful shaped charge provided the transition from the open hole Formation Tester to the present tool. The small charge used in open hole work did not allow perforation of most casing and cement combinations.

The operation of the tool is the same as that in open-hole work except for the method by which the depth is controlled.

The Formation Tester is attached to the logging cable and lowered into the hole in a collapsed position.

A casing-collar locator is run in with the tool, and pinpoint placement is achieved by tying in to the collar log run with the gamma ray log—the same method universally used in perforating.

In open-hole work, the tool is positioned opposite the "zone of interest . . . by correlating with the SP curve as is done with a sidewall core gun."

A shoe-type packer is expanded against the casing wall. The firing of the shaped charge allows communication between the formation and the sample chamber in the tool.

The pressures of fluids entering the sample chamber are recorded on the surface. When the chamber is full, bottom-hole formation shut-in pressure is recorded.

When the sampling is completed, the chamber is sealed, the pad is retracted, the packer is released from the wall, and the tool is pulled to the surface.

The tool allows a fast, cheap look at the many apparently marginal zones in both old and new wells, thus minimizing the chance of overlooking a pay zone and maximizing the chance of hitting the best one.

In a 12,000-ft. hole, Schlumberger says, it is possible to test as many as five sands and run the other completion services within 24 hours.

"Multiple zones can be tested without the time and expense of plugging lower tests on noncommercial shows. Gas-oil and oil-water contacts can be located with pinpoint accuracy.

"A perforating job can be saved by making the squeeze cement job through the test holes. There is no possibility of mud damage to an entire sand because there is only one perforation."

The selection of the best pay zone and the establishment of the water level in an oil sand are two ways the tester has aided in well completions.

In one example cited by Schlumberger, the producing sand had been depleted in a well drilled in 1945. There was only a 1-in. depth scale electrical log on the upper part of the hole.

With the Formation Tester, seven sands were tested in 16 hours without the old producer ever being squeezed off, and a good gas sand was found.

A second example stems from a directionally-drilled offshore well in which the producing sand had a questionable water level. Because of a transition zone, there was no conventional way of pinning down the oil-water contact.

After the casing was set, the Formation Tester was run twice, and the oil-water contact was pinpointed.

Workover Rig Is Barge-Mounted

This truck-mounted workover rig has been set on a barge to save time and money for Shell Oil Co. in Gibson (La.) field operations. Shell engineers cut a 20x8-ft. slot on one end of a flat-deck cargo barge to operate the workover rig in the same manner as conventional—but larger, more expensive—marine rigs.

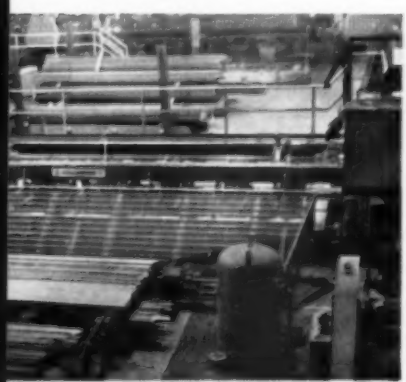
A Shell engineer says the method is more effective than operating such rigs over the side of barges, as some operators have done, because the latter method involves ballast and weight adjustments at the other side. The Shell barge is easily moved by a small tug, and need not be sunk before operations begin.

75

There are 75 reasons why J&L tubular products are of highest quality

J&L makes over 75 tests and inspections of its tubular products. Here are 18 of them. This stringent control assures a quality never before attainable in the industry.

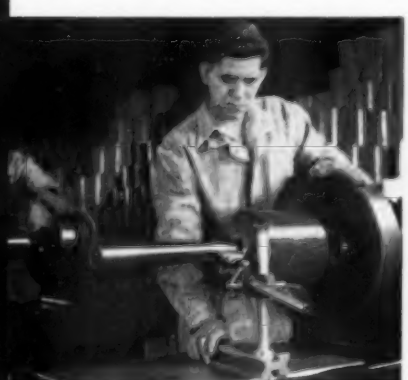
1 This ultra-sonic tester is one of the most advanced process control devices used in pipe-making. It provides an immediate picture of weld soundness in all J&L Electricweld Line Pipe.



8 Five lengths of Jal-Con-Weld standard pipe undergo simultaneous pressure testing on this modern Schloemann hydrostatic tester.

9 Here Jal-Con-Weld standard pipe is being wound around a mandrel. This is another test of the ductility of the pipe and the strength of the welds.

10 This is a flattening test to determine strength of the weld, ductility and other qualities of the steel in Electricweld Line Pipe.



14 These inspectors are checking thread alignment on Buttress Thread Couplings. Proper alignment is essential to good stabbing and true spinning of casing joint.

15 Each length of J&L Quench and Temper high-strength casing is subjected to full-length magnetic particle inspection. The slightest surface defect is distinctly visible under the ultraviolet light.

16 This inspector is testing the angle and diameter of the sealing member on pin end of Grayloc Tubing. All dimensional characteristics are checked for accuracy.

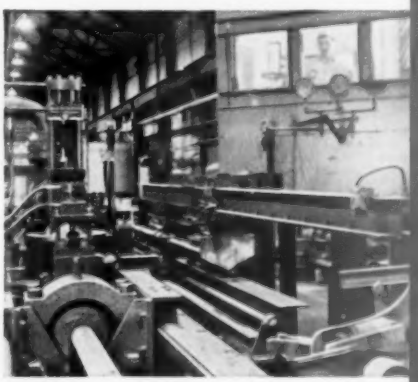
2 J&L inspectors are taking a steel sample from a basic oxygen furnace for thorough chemical analysis. A record of each heat is kept all through the manufacturing process.

3 This Spectromet unit provides a simultaneous analysis of alloying elements in the J&L steel used for tubular products.

4 In a J&L laboratory, this metallographer is examining the structure of a steel specimen.

5 This J&L laboratory technician is testing a specimen cut from finished pipe to determine its compliance with specified yield, tensile and elongation requirements.

6 This milling machine operator is cutting the notch in a specimen for Charpy impact test. The Charpy test determines notch toughness of the steel.



7 This is the world's highest—pressure production tester. It is capable of applying hydrostatic pressures up to 20,000 pounds per square inch.

11 This skilled inspector is examining the internal surface and ends of J&L casing to insure further the final high quality of the product.

12 This is one of many dimensional measurement checks made on each joint of Extreme Line Casing (produced under license from National Supply Company).

13 Jones & Laughlin inspector, with surveyor-type transit, carefully checks thread alignment on integral joint drill pipe.

Jones & Laughlin Steel Corporation

PITTSBURGH, PENNSYLVANIA

17 Upset ends of Blue Ribbon and Blue Ribbon Vanadium Drill Pipe and P-105 grade tubing are shot blasted to provide clean surfaces for magnetic particle inspection.

18 This modern collapse testing equipment exerts pressure up to 25,000 pounds per square inch . . .exceeding all published requirements.

What's New / IN EXPLORATION, DRILLING, PRODUCTION

Six oil companies and one individual have moved to block the Interior Dept.'s Bureau of Land Management from canceling 371 federal oil and gas leases in Wyoming.

The seven parties petitioned the U.S. District Court at Cheyenne, Wyo., last week for temporary and permanent injunctions to restrain the bureau from terminating the leases. The federal government contends the leases, involving 194,120 acres, exceed the acreage limitations of the Mineral Leasing Act of 1920.

The counter-complaint was filed by Sohio Petroleum, Ohio Oil, Mountain Fuel Supply, Sun Oil, Mobil Producing, Signal Oil & Gas, and Joseph M. Thomas.

A similar suit was filed recently by Pan American Petroleum Corp., countering a BLM proceeding against Walter Davis, Casper independent, to cancel 86 leases (PW—Feb.6'59, p18).

The seven petitioners contend, among other things, that the industry has countless farmouts, and that if BLM has authority to cancel leases through administrative hearings, it will cause confusion in the industry and curtail exploration.

•

A wild well that blew out June 3 at Grizzly Island, 25 mi. northeast of Oakland, Calif., has been killed by a relief well (PW—Jul.3'59,p28).

G. E. Kadane & Sons No. 10-A Standard-Suison Community, located 150 ft. from the wild gas well, was successful in tapping the runaway well at about 900 ft. and killing it with heavy mud and quick-set cement.

The well that blew out caused damage estimated at more than $200,000 to the Mighty Mole, a contract rig owned by Brown Drilling Co.

Gene Reid Drilling, Inc., of Bakersfield, Calif., drilled the relief hole, which now will be taken on down to about 6,500 ft. to evaluate the original objective.

•

National Supply Co. will begin closing its Toledo (Ohio) plant Sept. 1 by transferring equipment to plants in four other cities.

The transfer will be completed by Sept. 30. The closing will lead to expanded operations at Gainesville and Houston, Tex., Torrance, Calif., and Ambridge, Pa.

E. G. Unrath, vice-president of manufacturing, says the move will bring operations closer to large numbers of oilfield customers.

•

Vista Petroleum Co., Denver, has purchased controlling interest in Enardo Mfg. Co. and Empire Foundry Co., both of Tulsa, for an undisclosed amount.

Enardo is a manufacturer of oilfield specialties, and Empire Foundry produces more than 2-million lb. of castings monthly at its plants in Tulsa and Bonham, Tex.

Vista Petroleum had been engaged in production and leasing until recently, when it bought Robison Parks Controls, Inc., distributor of oilfield valves and control equipment.

•

Oil and gas rights to 336,000 acres in the Peace River area of British Columbia will be offered by the provincial government July 30.

The sale will include 45 parcels ranging from 60 to 59,420 acres. About 4,500 acres are in the Boundary Lake area.

•

The Navajo Tribal Council has announced that it will offer certain limited acreage in San Juan County, N. M., for oil and gas leasing in late summer.

The land involved is southeast of Shiprock. The offering will follow a

Barge Sinks Again During Salvage

Apparently successful efforts to raise the sunken Trans-Gulf Drilling, Inc., Barge No. 10 ended in failure when the barge sank again shortly after this picture was taken by a Petroleum Week reporter. But machinery and superstructure already had been removed.

The mobile platform was being used on State Lease 1423, South Timbalier Bay, off Louisiana, when it first sank last January. Efforts are under way to raise the barge again. Two cylindrical, compartmented tanks, 17 ft. in diameter, which had been placed along each side of the barge, will be pumped full of air to raise the vessel. The J. Ray McDermott Derrick Barge No. 8 is being used in the salvage operation.

CONTINENTAL RED SEALS Find Ready Acceptance in the Oil Fields

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previously announced sale of 21 tracts covering 3,291 acres in San Juan County, Utah, on July 28 (PW—Jun. 26'59,p32).

•

Newer methods in the secondary recovery of oil will keynote the 21st Technical Conference on Petroleum Production, to be held at Pennsylvania State University, State College, Pa., Aug. 25-26.

The first session will be devoted to papers on theory of and field experience with miscible phase displacement. In-situ combustion will be discussed the second day.

The meeting is cosponsored by the Pennsylvania Grade Crude Oil Assn.

•

Revised safety regulations affecting drilling-crew operations have been adopted in California.

The changes, made principally to clarify the Petroleum Safety Orders of the State Division of Industrial Safety, cover wire-rope hoisting lines, chain used for spinning lines, and blowout prevention.

The new, more-stringent order on wire-rope hoisting calls for maximum allowable working loads based on a minimum safety factor of four for normal operations, and three for setting casing, pulling stuck pipe, or similar operations.

•

The Illinois Geological Survey reported this week that three new oil pools were discovered in the state in June.

The June drilling report lists the new pools as West Seminary, Clay County; Raymond South, Montgomery County; and Passport North, Richland County.

A total of 178 holes were completed during the month, of which 96 were oil wells, for a success ratio of 54%.

•

The West Central Texas Oil & Gas Assn. has set up a new committee to study wider well spacing.

The committee, headed by James D. Russell, will limit its study to the West Central Texas area. Findings will be reported at the association's annual convention Nov. 19.

•

Drilling Highlights

East Texas—Pan American Petroleum Corp. No. 1 Giraud, George S. Young survey, Cass County, was triply completed for 128 bbl. of 51.9-gravity oil in 15 hours through 14/64-in. choke and perforations at 9,864-74 ft. and 9,951-58 ft. in the upper Cotton Valley; for 45 b/d of 43.1-gravity oil through 24/64-in. choke and perforations at 10,254-62 ft. and 10,278-83 ft. in the middle Cotton Valley; and 281 b/d of 48.8-gravity oil through 8/64-in. choke and perforations at 10,620-63 ft., also in the middle Cotton Valley. In addition to being the first Cotton Valley triple completion in East Texas, the discovery also is the first in the district to produce crude from this zone. Other Cotton Valley completions have yielded gas and condensate.

North Texas—Tom B. Medders No. 1-B Ancell, section 34, block 6, H&TC survey, Wilbarger County, was completed for 198 b/d of 43-gravity oil through 14/64-in. choke and open-hole section at 4,482-95 ft. in the Ellenburger. The pool opener is 1½ mi. south of Consolidated field, with a failure intervening.

Utah—Standard Oil Co. of California, Western Operations, Inc., No. 1 Uintah-Ouray, section 5-1n-2w, Duchesne County, has encountered an unreported amount of oil. The tight hole, bottomed at 13,345 ft., is 6 mi. north of Bluebell gas field. Testing of a "first zone" is under way; other zones that showed gas or oil also will be tested.

California—Union Oil Co. of California No. 2 Hill, section 22-3n-21w, South Mountain field, Ventura County, flowed 813 b/d of 31.5-gravity oil through 37/64-in. choke. Production is from three intervals between 10,659-12,000 ft., a new deep pool for the field.

Wyoming—W. C. McBride, Inc., No. 1 Nisselius, section 27-48n-75w, Campbell County, recovered 1,264 ft. of oil on 2-hour drillstem test of the Ferguson zone of the Parkman (Mesaverde) at 6,930-66 ft. The prospect is 2½ mi. southeast of a 20 b/d oil discovery completed last year, and 2 mi. south of principal production in Dead Horse Creek field.

Oklahoma—Sinclair Oil & Gas Co. No. 1 Rohrer, section 20-29n-22w, Harper County, flowed 7,592,000 cf/d of gas with 18 bbl. of condensate in 12 hours through 22/64-in. choke and perforations at 5,701-11 ft. in the Morrow. The discovery, 2½ mi. north of North Buffalo multizone field, is the first to produce from the Morrow in this area.

DEPT/Processing & Petrochemicals

Use of Oil, Gas Grows in Steelmaking

They're already widely used in open-hearth furnaces, and they have a bright future in blast furnaces and in both beneficiation and direct reduction of ore.

The use of petroleum fuels in the iron and steel industry, as a potential substitute for coal, is currently attracting a lot of interest from both steel operators and refiners.

It makes good sense, because:

- Iron- and steel-making processes are among the largest consumers of fuel energy.
- The conventional processes have remained substantially unchanged for many years, but are changing rapidly now.
- Underdeveloped countries all over the world, with little or no coal, but with both iron ore and natural gas or oil within reach, contemplate the development of steel industries of their own.

"It is a healthy interest," says Gregg Moga, of Koppers Co., "because it has caused the industry to gird its loins, and see what should be done to improve the conventional methods."

Fuel oil and gas are being used extensively at present in the steel industry, particularly as fuel for open-hearth furnaces.

"We can supply a huge quantity of residual fuel to the Gary (Ind.) steel mills," says C. R. Campbell, of Sinclair Refining Co., "because we handle, at present, a relatively low-sulfur crude.

"We are avoiding residual fuel production, and like to run to coke in most of our refineries," says Mike Reed, of Socony Mobil Oil Co. "But where we have heavy fuel, and where sulfur content is reasonably low—say below 1%—we supply neighborhood steel mills."

Refinery products, particularly the "aromatics," are decidedly more satisfactory than fuels of solid origin for open-hearth practice, because they produce a more luminous flame, a very desirable condition. Coal tar products also contain aromatics, but they are loaded with impurities and sulfur.

This has brought about an interesting situation: Coal tars are, at present, being upgraded through methods native to the oil refining industry, in order to put them on a competitive basis with petroleum products as open-hearth fuels.

Esso Research & Engineering Co., working with Jones & Laughlin Steel Corp. was first to apply its Hydrofining method to coal tars. It was followed by Koppers Co., using Universal Oil Products Co.'s Udex process, working with U. S. Steel.

Shell Development Co., working with Bethlehem Pacific Coal & Steel Corp. has developed a process for admitting carbon black into the fuel oil—or the oil and gas mixtures—used in open-hearth furnaces, to increase flame luminosity. "An improvement in steel productivity as high as 1.5% for each percent of carbon black added, up to at least 10% by weight, can be expected," say the Shell technicians.

The present wave of interest centers around the extension of the use of oil and gas to the production of iron from iron ore.

Most popular technology for converting iron ore into iron is by way of the efficient, dependable blast furnace.

Iron ore, flux, and coke are loaded from the top, hot air, or oxygen, is blown in from the bottom. The iron is separated from its matrix, reduced, melted, and drawn out at the bottom, in hot, molten form.

The coke plays a three-way role: (1) It acts as a support for the iron ore, keeping the mass open for the passage of air; (2) it supplies, as it burns, the heat required to melt the iron; and (3) it supplies the gases for the reduction of iron oxide to metallic iron.

It now appears possible to increase the capacity of existing blast furnaces by using gas in place of coke.

Some coke would, no doubt, still be needed as a support for the load. But a large proportion could be eliminated—or "backed-out"—by using gas. This would mean a substantial increase in the iron capacity of the blast furnace.

It would mean a substantial saving to steel companies, whenever increased demand dictates an increase in blast furnace capacity, because of the high cost of added blast furnace construction.

Backing out some of the coke in favor of a fuel of petroleum origin, has several definite advantages.

- The work of the furnace is improved.
- The gases leaving the furnace have a higher heat content, for further use in heat exchangers:
- Gas—as well as oil, from which the gas may be produced—is more easily handled than coke.

Extensive tests have already been done on substituting gas for coke in blast furnaces.

At last April's meeting of the American Institute of Mining, Metallurgical & Petroleum Engineers, in St. Louis, Norwood Melcher, of the U. S. Bureau of Mines, reported that by injecting natural gas into the smelting zone of an experimental 4-ft. blast furnace, in percentages varying up to 8% of the air blast, an increase of 30% in pig iron production was attained, with no increase in wind rate. A record low coke rate of 948 lb. per ton of pig iron was obtained. The natural gas was admitted at the rate of 3,860 cu. ft. per ton.

The European Coal and Steel Community has also done considerable work along these lines. In an experimental low-shaft furnace, in Liege, Belgium, as much as 20% of the coke was backed out, gas was used as fuel, and iron production was increased 25%.

"The actual bottleneck in the conversion from coke to petroleum fuels," says Dr. Walter F. Rollman, of Esso Research, "is the lack of technical information available, and the very magnitude of the project to develop such information in practice."

Among the many unknown factors are such data as: What reactions actually take place, when gas—or oil—replaces coke? Where and how should it be admitted into the furnace? Is it more advantageous to use natural gas, water gas, or synthesis gas? There are many thermodynamic difficulties, not easy to overcome.

One of the greatest stumbling blocks so far has been the high sulfur content of the petroleum fuels economically available.

Oil companies are now studying ways and means of presenting to the steel companies a program sufficiently simple and attractive to warrant further study.

Another aspect of the iron and steel industry where petroleum fuels

may find a substantial market is the "beneficiation" of the iron ore, prior to its loading into the blast furnace.

Started originally to improve the utilization of low-grade iron ores, such as taconite, beneficiation is now applied to a large proportion of the ore processed in the U. S. As much as 55-million tons of ore a year are beneficiated, out of a total of around 120-million used. It is predicted that, in the near future, all blast furnace loads will be beneficiated.

Beneficiation is a two-step process. First the ore is crushed, and cleaned, by various methods, to remove some of its useless matrix. This is done at the mine. Then, at the furnace site, the ore is sintered, to make use of the "fines" thus produced. The fine, cleaned ore is burned (sintered) on a traveling chain grate, with air blowing through it. Gas, oil, or coke can be used as fuel.

The cleaned ore can also be pelletized, with clay, into small balls, with a coating of coke breeze or anthracite fines, in a horizontal or vertical kiln.

Such "thermo-agglomeration" appears quite essential when coke is backed out of a blast furnace, in order to provide a structural support for the load, make the iron oxide readily accessible to the gases, and prevent fines from being blown overhead.

For such beneficiation, heavy residual fuel oil, or crushed petroleum coke, may be advantageous in many cases.

"This looks particularly feasible," the Esso Research technicians point out, "because the presence of sulfur in such products does not appear to be as objectionable for sintering as it is in a blast furnace."

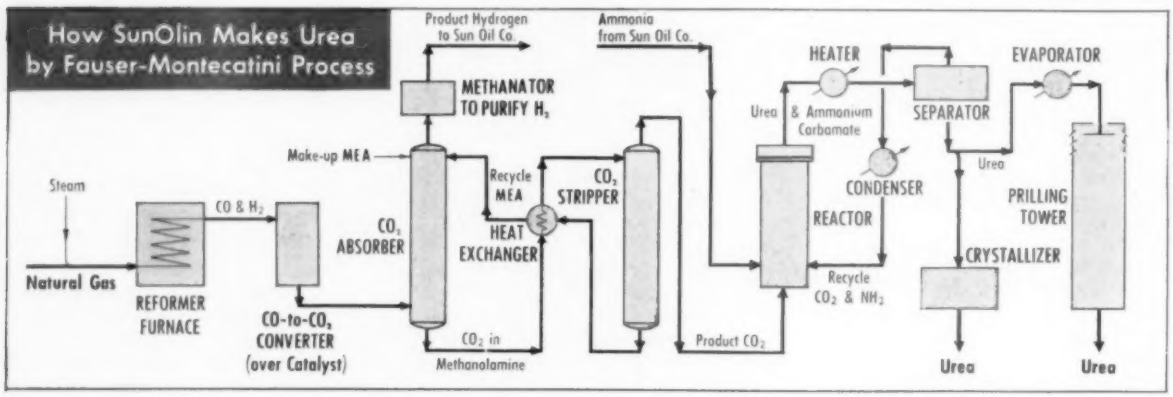
On an entirely different scale from blast furnace operation, many processes for the "direct reduction" of iron ore to iron are in the pilot or semicommercial stage. Most can use petroleum products as fuel and reducing agent.

There are literally thousands of patents covering such processes in the U. S. and abroad. They all consist in the reduction of the iron ore in batches that may be much smaller than a blast furnace load, using as a fuel a variety of products ranging from molasses to gas and, in certain cases, completing the process in an electrical furnace.

These direct reduction processes, costing considerably less to install than a blast furnace, are of definite value in many cases. They are indicated in locations where coal or coke is not available, since almost all of them can use gas. They are also indicated where a small unit is desired. They should be particularly attractive in many underdeveloped countries, at least as a starter for an iron and steel industry.

Before any of these processes reaches full acceptance, much remains to be learned about the economic conversion of petroleum products to hydrogen and carbon monoxide, the principal reducing agents.

It is felt that cheaper and better ways to produce synthesis gas must be developed.



SunOlin's First Chemical Venture

Newest plant for the manufacture of urea, and only one in the U. S. using the Fauser-Montecatini process, is being built at a cost of $8-million at North Claymont, Del., by SunOlin Chemical Co., the recently formed joint subsidiary of Sun Oil Co. and Olin Mathieson Chemical Corp.

The plant will produce annually 73,000 tons of urea. Urea is an important fertilizer and cattle feed—it contains about 45% of nitrogen—and it is used to make medicines, resins, plastics, and dyes, and in fermentation processes.

M. W. Kellogg Co. is designing and building the plant.

SunOlin has a unique exchange agreement with Sun Oil Co.'s nearby refinery, at Marcus Hook, Pa.

The refinery will supply it with ammonia—about 120 tons a day—and will receive, in exchange, about 10-million cu. ft. a day of hydrogen, which it will use both for further ammonia production and for further hydrogenation processes.

Other raw material for the urea plant is natural gas, piped in from Texas by Transcontinental Gas Pipeline Corp.

The new plant consists essentially of two parts, one where the natural gas—principally methane—is transformed into carbon dioxide, and one where this carbon dioxide is combined with ammonia to make urea (flow diagram, above).

Natural gas and steam are heated to about 1,500F in the presence of a nickel catalyst to form water gas (carbon monoxide and hydrogen). The carbon monoxide portion of this gas is then oxidized into carbon dioxide, over an iron and chrome oxide catalyst. The carbon dioxide is separated from the hydrogen by absorption in monoethanolamine (MEA).

The hydrogen is purified in a "methanator," where last traces of both carbon oxides are converted to methane over a nickel oxide catalyst (methane is preferable as an impuri-

ty). The hydrogen is then piped to the Sun refinery.

The carbon dioxide, released by heating from the MEA solution, goes to the urea plant. Daily, 120 tons of liquid ammonia and 150 tons of CO_2 are compressed to 2,800 psi., and fed into a tall reactor. There, about half of the feed is converted into urea and water, while the other half forms an unstable compound, ammonium carbamate. This carbamate decomposes easily back into ammonia and carbon dioxide, which are recycled into the reactor. An over-all conversion to urea of better than 95% of the feed is expected.

By combination of heat and vacuum, the water is evaporated from the urea. Most of the molten urea is "prilled" into small, white, odorless beads, by dropping through a perforated plate into a huge tower, against an upward flow of air. The rest of the urea is crystallized and centrifuged to make a powder that looks not unlike granulated sugar.

"This is our first venture into a fully-integrated petrochemical process," James I. Harper, president of SunOlin, told PETROLEUM WEEK last week. "But it will not be the last. We have definite developments in view, but it is too early to discuss them at present."

What's New / IN PROCESSING

Construction of a $3¾-million gas processing plant in the Carstairs field area of Alberta will get under way next month. Completion is set for March 1960.

Gas drawn from Carstairs field will be processed at a rate of 75-million cf/d and sold to Trans-Canada Pipe Lines, Ltd. In addition, 2,200 b/d of condensate will be marketed.

Home Oil Co., Ltd., will operate the plant and hold approximately 50% ownership. The chief remaining interests will be Canadian Superior Oil of California, Ltd., 22%; Tennessee Gas Transmission Co., 16%; and Texaco Canada, Ltd., 8%.

Fluor Corp. of Canada, Ltd., has been awarded the construction contract.

•

Kimbell-Campbell Refining Co. put a new processing installation on stream this week at Bloomfield, N. M. Principal unit is a 2,500-3,000 b/d catalytic reformer, which will process raw distillate trucked from nearby leases into gasoline ranging from 90 to 101 octane.

The plant has been under construction since February.

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Two new phosphorus-containing gasoline additives, Ucar additive 4BP and Ucar Additive 2CP, have been developed by Union Carbide Chemicals Co., a division of Union Carbide Corp.

The first compound is tetrabutyl pyrophosphate which contains 15.39% phosphorus. Ucar 2CP contains 12.77% phosphorus and 14.61% chlorine. Both additives, available in developmental quantities, are recommended for use as preignition suppressors and spark plug antifouling additives.

According to company spokesmen, neither compound has shown adverse effects on the octane rating of commercial gasoline as measured in CFR (Cooperative Fuel Research) tests.

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Aurora Gasoline Co. is expanding facilities at its Detroit (Mich.) refinery. New installations, to go on stream this fall, include an 8,000 b/d Unifiner to clean up the charge stock to an existing reformer, and a 2,000 b/d sulfuric acid alkylation unit. Construction of both projects is being handled by The Refinery Engineering Co.

•

A reflux computer controller designed to improve the efficiency of fractionating towers and other distillation facilities has been developed by Brown Instruments division of Minneapolis-Honeywell Regulator Co., on license from Phillips Petroleum Co.

The new device, to be marketed under the trade name FRAC, uses standard electric and pneumatic instrument components to determine and control internal reflux flow rate.

According to Honeywell, the computer provides for faster corrections of variations in reflux temperature originating in condensing systems, eliminating the need for any further equipment other than normal column instrumentation.

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DEPT/Marketing

Marketers Puzzle Over Demand Trends

Marketers are debating conflicting points of view on how to stimulate gasoline demand, as the peak motoring season reaches its midpoint.

A survey last week by PETROLEUM WEEK turned up several issues on which marketers are either undecided or hold opposing views. The problem of stimulating gasoline consumption has become especially important this year because of excessively high inventory levels. There has been a steady decline in gasoline stocks lately, but they are still some 10-million bbl. over the "ample" levels of last year.

H. L. Moir, chairman of API's Stimulate Gasoline Demand Study Group told the Division of Marketing last May that this oversupply could be more than dissipated if each motorist could be induced to buy one extra tankful of gasoline during the year.

One phase of conflicting opinion centers around the changing habits of motorists. Marketing executives do not agree on which aspect of driving needs more promotion—local driving or long-distance driving.

Recently, marketers have found that motorists can be responsive to travel suggestions that include points of interest within a few hours of their home (PW—Feb.28'58,p42). "The one-day drive into the country is fast becoming a thing of the past and needs reviving," one marketing executive commented to PETROLEUM WEEK.

But a marketing vice-president in another major oil company believes that gasoline advertising should emphasize long-distance travel. "That's where we're losing out to planes and buses," he says.

Those who hold the view that long-distance driving should be stressed find support for their opinions in a recent survey that indicates that motorists still make the majority of their shorter trips (up to 2,000 mi.) by car. Only 40% of longer trips are made by car, however (PW—Jun.5'59,p60).

The safety theme in gasoline advertising is another subject that is generating mixed opinion.

Several oil companies stress safety in their national or regional advertising. The consensus of oil marketers, in fact, is that safety is an appropriate "tie-in" appeal for gasoline promotion. One company spokesman, who might well speak for most of the industry, maintains that "a public service" is being performed every time gasoline advertising includes a reminder to drive safely.

But a small group of marketing executives are beginning to doubt the value of the "safe driving" appeal. They contend that the oil industry is only reminding motorists of the "dangers" of highway driving. Some of these executives believe that many motorists are frightened off the road by holiday fatality tolls, for example.

The holiday weekend death forecasts issued by the National Safety Council are considered by some oil men to be particularly responsible for instilling "unnecessary fears" in motorists. Recently, API's Traffic Safety Committee has been considering approaching NSC in an attempt to modify the publicity given to council's fatality counts and forecasts.

Paul Jones, director of public information at NSC, told PETROLEUM WEEK that the council "will consider seriously any feeling the oil industry or anybody else has about our news releases."

Jones maintained, however, that the public-service aspect of the council's work is too often blurred by newspapers and radio commentators, who stress the death-tolls without mentioning the caution and safety that the safety council repeatedly urges. Furthermore, Jones disputed those who say that traffic fatalities on holiday weekends are no higher than on normal weekends. Jones contends that more accidents occur on holiday weekends than in other periods of the year.

How to deal with the push to the suburbs is another question that produces varied reactions.

Some observers in the industry view the suburban trend as a boon to gasoline demand, because it tends to separate the average motorist from many of his essential destinations, such as shopping centers, schools, medical needs, and recreational facilities. Furthermore, these marketers say, the suburban atmosphere stimulates an outdoor way of living, which prompts many suburbanites to get out on the road.

But other marketers view the push to the suburbs with less optimism. The most common reservation appears to be that suburban living, instead of inducing more driving, tends to keep the motorist at home.

"Many people move out of the city and start their own gardens or even build their own swimming pools," notes one executive. "These people have less need to seek recreation away from home than when they lived in the city."

The great expansion in home air-conditioning and television buying, marketers agree, are two other factors that contribute to the stay-at-home habits of suburban residents, as well as city-dwellers.

The small car is another point on which marketers cannot agree. Many marketing executives view with remorse the trend toward foreign cars and small American cars. With their high gasoline mileage, marketers say, these cars only tend to reduce the over-all demand for gasoline.

Some oil men console themselves with the prophecy that the small-car trend is only a "fad" and cannot last. Others challenge small car manufacturers' claims of economy by arguing that the small cars will not last as long as heavier automobiles.

But other marketing men take a more optimistic approach to the small car. They say that many families are buying small cars, not as replacements for larger cars, but as second, or even third cars. If this is so, these marketers maintain, the small car will be a stimulus to gasoline demand.

A recent survey conducted by Sindlinger & Co., Inc., for Newsweek, seems to bear this out. The survey showed that 53% of imported-car

NCPR Meeting To Hear Kefauver

Sen. Estes Kefauver (D., Tenn.) will address the 13th annual session of the National Congress of Petroleum Retailers, to be held in New Orleans Aug. 16-21.

Kefauver, an avid congressional supporter of the rights of small business has been the principal sponsor of S-11, the anti-competition bill, which bars "good faith" in meeting of competition as a defense for price cutting.

Sharing the spotlight will be Federal Trade Commissioner William C. Kern, who is expected to discuss the enforcement of antitrust laws in the oil industry.

owners also own at least one American car. And more than 6% indicated that they also own two or more American cars.

The big rise in the use of outboard motor boats and other small craft is another aspect of the total gasoline demand picture that causes divided comment.

Many oil marketers are watching with glee the upward curve in marine fuel demand. This year, about 404-million gal. of this fuel will be used by vacationers and weekend mariners.

But other marketers—more skeptical—tend to believe that the small-craft trend is only taking motorists off the road and putting them in boats—which consume less fuel than cars.

What's New
IN MARKETING

Atlantic Refining Co. began fair-trading in North Carolina last week. The company's new price of 29.9¢ for regular grade gasoline, including state and federal taxes, became effective July 10. It is the fifth company to start fair-trading in the state. The others are Gulf Oil Corp., Esso Standard Oil Co., Sinclair Refining Co., and American Oil Co.

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Esso Standard Oil Co. has made another bid for gallonage in the competitive East Coast market.

Esso has signed an agreement with Cirillo Bros. Petroleum Co. for the distributor to purchase and distribute Esso light and heavy fuel oils. Cirillo sells about 260-million gal. of fuel in the metropolitan New York area. At present, Cirillo is expanding its storage capacity with the construction of 24-million-gal. tanker terminal. The distributor now operates three barge plants with a total capacity of 7-million gal.

Earlier this year, Esso purchased two distributors on the East Coast: General Automatic Corp., of Baltimore, and Smedley & Mehl, of Ardmore, Pa., a Philadelphia suburb.

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A Denver department store is accepting oil company credit cards as suitable reference for establishing credit.

"If a customer's credit has been approved by a major oil company, then he's a good enough risk for us," said Myron D. Neusteter, president of Neusteter's Department Store.

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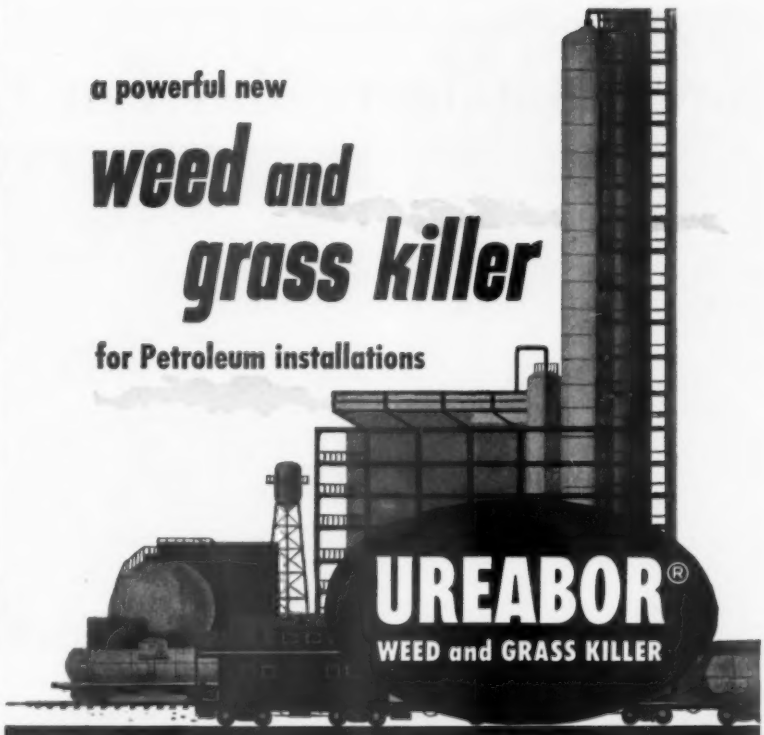

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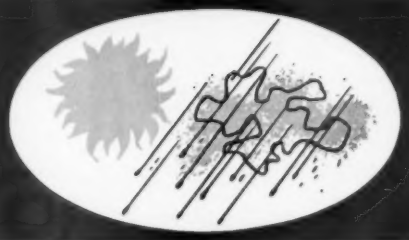

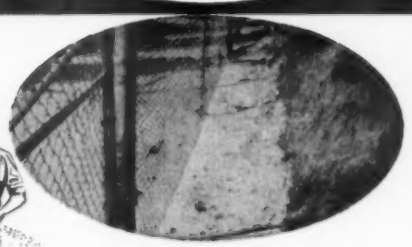

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DEPT/Transportation & Storage

New Containers May Cut Export Costs

U. S. Rubber Co. and General American Transportation Corp. may have the answers to a critical problem facing the U. S. petrochemical industry: how to get products overseas cheaply enough to hold foreign markets.

Both companies report the development of wholly new portable containers for ocean and overland shipment of petrochemicals. Two U. S. Rubber products are already on the market and in limited use in coastwise and overland shipments. General American's product is still on the drawing board, but development has reached the stage where the company can begin manufacture as soon as it gets orders.

The new containers may be arriving just in time, for several producers report that the lack of containers bigger than 55-gal. drums and smaller than tankers is pushing their freight costs above their foreign competitors'.

The standard 55-gal. drum is too small, and tanker facilities are too large, for the quantities specified in most foreign petrochemical orders. An inexpensive, portable, reusable container of a size that strikes a profitable balance between a drum and a tanker is needed—and in a hurry, several major petrochemical producers told PETROLEUM WEEK last week.

Two of them, Standard Oil Co. (N. J.) and Continental Oil Co., say that competition has made steel drums —and plastic and paper containers of the same size—relics.

Though still relied upon for the bulk of petrochemical exports, the drum has these major disadvantages: excessive weight, which means excessive freight cost, and a trifling resale value.

The weight of a drum is about 50 lb., or roughly 10% of its total weight when filled. That means, of course, that 10% of the export freight charge is paid on the drum.

Once the drum is empty in a foreign country, the shipper has the disconcerting choice of reselling his $7 item there for a top price of 50¢ or having it returned at a charge which might equal his export freight, since a shipowner has the option of charging either by weight or volume.

Even the drum's tidiness is a disadvantage. So many of them are needed to fill an average order, handling costs are high.

COLLAPSIBLE CONTAINERS made of rubber may be one way U.S. petrochemical producers can cut overseas transportation costs to meet foreign competitive prices.

And the tanker—even the now-small T-2—has never provided a solution, manufacturers say, because it's far too big for the average order.

"It's so expensive to transport petrochemicals abroad by present means—drums, small packages—that we're pricing ourselves out of business," says Edward Coogan, of Jersey's transportation coordination department. And another company laments, "We're being run out all over the damn world."

Thus, the search for a competitive way to ship in bulk—complicated by the demands made by a wide diversity of products for containers of various types and specifications—has gone on, accelerated recently by newly built petrochemical plants in Europe, which are even managing to undersell U. S. firms in the back-yard Latin American markets.

The newly developed containers, however, may be what the industry has been looking for.

U. S. Rubber's new container is a 500-gal. collapsible "drum."

It has nearly ten times the capacity of its steel counterpart and is only three times as heavy.

In lots of 100 or more, U. S. Rubber is selling them for $260 each, about 35 times the price of a steel drum. But the company says they will last at least three years. (It reports that it has had similar rubber containers in use for that period of time, with no signs of deterioration.)

Handling time before and after shipment would also be cut considerably, the company feels.

On a return voyage, three collapsed "drums" wouldn't take any more space than one empty steel drum.

"This is the solution," John Coppes, sales supervisor in U. S. Rubber's transportation products division, says flatly.

While U. S. Rubber's new containers may not meet all the pressure and temperature requirements involved in transporting petrochemicals, he feels certain they will be suitable for many types.

U. S. Rubber says industry reception of its containers has been good.

Among the companies that are already using them are Monsanto Chemical Co. and Phillips Petroleum Co., both for fertilizer shipments.

Several firms indicate that rubber containers would be an answer if pressure and temperature bugs are worked out, and the cost is kept low.

Coppes says pressure in the containers is at 7-10 psig., and that refrigeration can be accomplished by heat-transfer units.

"We make a container of rubber material for nearly every kind of petrochemical," he says.

An earlier U. S. Rubber container —the "Sealdtank"—received a mixed reception.

The "Sealdtank" is a collapsible,

bag-like vessel, with a capacity of up to 4,000 gal, which costs about $1,800. Some petrochemical manufacturers feel this is too expensive.

Still, U. S. Rubber reports, the "Sealdtank" is being used for overwater movement of fuels and fish oils, and can be used for several petrochemicals.

General American's container is an easily-handled metal tank, which can be made with a capacity of up to 3,000 gal.

It is about half the size of a railroad tank car tank, but at the same time is easily portable, according to a company official. The portability is due to rollers mounted on the tank, which enable it to be rolled to and from the carrier that would take it to the ship. Loading on to the ship could be easily accomplished with the ship's tackle.

"The portable tanks would substitute for other types of 'packages,' such as drums, for movement of bulk chemicals either in domestic or foreign freight," according to a company spokesman. "Any saving in handling amounts to a saving in money."

A secondary use for the tanks suggested by the company is for storage at the point of destination.

One petrochemical exporter—Dow International, Ltd., S. A.—is using special small tankers, but is still being undersold.

Dow has two tankers—the "Marine Chemist" for overseas hauls, and the "Marine Dow Chem" for coastal shipping.

Both ships are equipped with compartmentalized tanks, with special pressurization and refrigeration equipment.

But Dow too admits, "We are definitely feeling the pinch of rising transportation costs. The overseas companies we have checked have lower shipping rates than we do."

What's New / IN TRANSPORTATION

The revised proposals of Midwestern Gas Transmission Co. and Michigan Wisconsin Pipe Line Co. to import Canadian gas for resale in the Upper Midwest (PW—Apr.3'59,p65) will come before the Federal Power Commission on July 27.

Midwestern wants to build a 504-mi. pipeline from Emerson, Manitoba, to Marshfield, Wis., at an estimated cost of $52-million. Daily imports would be 204-million cu. ft, of which about 153-million would go to Michigan Wisconsin.

The latter wants permission to spend $24-million for a new line linking Marshfield and Appleton, Wis., additional mileage in its present service area, looping present lines, and additional compressor horsepower.

•

In eleventh-hour decisions last week, Miami and Dade County withdrew objections to the scheduled opening July 26 of Houston Gas & Oil Co.'s new pipeline through which southern Florida will get its first natural gas.

For a while, it looked as if the deadline might not be met. As late as last week, attorneys for the city and county were claiming Houston had never obtained permission to stretch its 1,500-mi. line, which originates in Texas, across their municipalities.

Acting swiftly on the question, the city commission agreed to a tentative franchise, to be put to referendum in the fall. County approval was contingent on road repairs.

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The Federal Power Commission has suspended all but $8,500 of a $6,986,000 natural gas rate increase sought by Texas Gas Transmission Corp.

The hike would affect 61 customers in Illinois, Arkansas, Indiana, Kentucky, Mississippi, Ohio, and Tennessee.

A hearing on the proposed rate hike will be set later.

•

Engineering

A new line of high-speed, multistage centrifugal compressors has been announced by York Corp., a Borg-Warner subsidiary.

The company says its new turbomaster compressors have about 400 fewer parts than conventional centrifugal types. They are engineered for gas-compression uses, such as fractionation, liquefaction, chemical reaction, storage, and refrigeration.

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Persian Gulf: They're Coming In Fast

Three significant and widely-scattered new oil finds in and around the Persian Gulf are dramatizing new oil prospects in an already oil-rich area.

The new oil finds (map) are strung out from Ahwaz, in Iran, near the northern end of the Persian Gulf, to the southern part of the Gulf, and inland to the Trucial Coast.

In addition, at least seven new wildcats are currently on the docket for this year. They will stretch over an even broader area.

The Iranian Consortium is already drilling two of three coastal wildcats that will give the first indications of offshore prospects along the entire northern coast of the Persian Gulf.

• **Kuh-I-Binak,** the first, has had a few minor shows of oil, but may be abandoned soon due to technical difficulties, including high-pressure water zones. It is now below 9,840 ft. The rig may be used for further testing on the same structure.

• **Kuh-I-Mund,** the second, was spudded June 14, 50 mi. southeast of Bushire, with a National 100 rig. It's on a 60-mi. anticline where a 3,837-ft. test drilled nearly 30 years ago found shows of 5-gravity oil.

• **No. 1 Suru,** the third, is scheduled at Bandar Abbas for mid-December.

At the same time, initial offshore wildcats are being prepared on new tracts at the northern end of the Persian Gulf by three newcomers:

• **Pan American International,** Indiana Standard subsidiary, now aims for a spudding date in the latter half of August, delayed in part because the derrick barge legs proved 7 or 8 ft. too short.

Exact site, on the large tract held by IPAC (its partnership company with National Iranian Oil Co.), has not yet been finally selected, the company said this week.

• **Italys' state-owned Agip Mineraria** is building a fixed platform on the SIRIP tract (its NIOC partnership company). Headquarters offices in Italy last week could give no information on exact drilling site or the new target date.

• **The Japanese-owned Arabian Oil Co.** last week was expected to spud in momentarily on its offshore Neutral Zone concession. Its initial site is nearly 25 mi. from shore in water 98 ft. deep (PW—May1'59,p 50).

In the southern half of the Persian Gulf, Shell will resume wildcatting on its offshore Qatar concession this fall, after arrival of its new drilling platform.

Prospects of discoveries in some of these new tracts are now definitely enhanced by three key oil finds:

1. The recent No. 6 Ahwaz strike in Iran.

This Consortium discovery looks far and away the biggest.

The well, carried to total depth of 13,208 ft. (the deepest in south Iran), was plugged back and perforated at 8,645-765 ft. in the Asmari limestone.

From this 120-ft. section, the well flowed 34.4-gravity oil at the rate of 16,000 b/d through 1-in. choke, with pressure differentials indicating an open-flow rate around 40,000-50,000 b/d.

The Ahwaz discovery not only promises a major new field; it also points to "encouraging" prospects for the IPAC and SIRIP offshore tracts to be tested by Pan American and Agip, respectively.

Despite its inland location north of Abadan, geologists note, the No. 6

Ahwaz discovery well lies in line with these offshore tracts.

II. The new offshore strike east of Das Island.

Though it is still an encouraging signpost to oil prospects in the southern gulf area, the No. 2 Umm Shaif has proved relatively disappointing, informed sources now confirm.

On the positive side: The No. 2 well, successfully completed 2 mi. west of the No. 1, last year's wildcat oil strike, confirms establishment of the Persian Gulf's newest offshore oil field by Abu Dhabi Marine Areas (2/3 British Petroleum, 1/3 Cie. Francaise des Petroles).

The discovery also offers new encouragement for Shell's adjoining offshore Qatar concession, where it had drilled two dry holes.

On the negative side: The No. 2 Umm Shaif tested "only about 1,000 b/d." This is considered a "big disappointment" after the No. 1 discovery well which, according to official announcements, flowed 40-gravity oil at test rates around 2,400 b/d from the Shuaiba limestone (lower Cretaceous). The same producing formation, though much tighter, is said to have been encountered in No. 2, the first of a series of appraisal wells. No. 3 is now being drilled.

III. The Murban discovery on the Trucial Coast, in Abu Dhabi.

There was little doubt left last week that the No. 2 Murban will establish the first oil field in the Trucial Coast (PW—Jul.10'59,p80).

The well, now being drilled below 10,400 ft. in the Thamama limestone (Cretaceous) by an Iraq Petroleum Co. affiliate, flowed 41- to 43-gravity oil at the rate of 2,000 b/d on a series of drillstem tests.

New Type of Farmout in Venezuela

CARACAS—Stekoll Petroleum's new farmout covering some partially developed acreage is the first of its type in Venezuela. Practically all previous farmouts have been purely exploratory.

Two of the Dallas independent's three new blocks, covering some 27,000 acres in eastern Venezuela, offset producing properties of Mene Grande Oil Co. The other block has three wells which were tested but never put on production.

The farmout was taken from Venezuelan Atlantic Refining and Pancoastal Petroleum (PW—Jul.10'59, p80).

In addition, the company expects to sign another farmout agreement in Trinidad in the near future.

Details of this arrangement have not yet been announced.

Terms of the Venezuelan farmout are part cash and part royalty. Stekoll de Venezuela, the Venezuelan subsidiary, will drill at least eight offset and semiexploratory wells as part of its committment. Drilling with a contract rig is expected to start this September.

The three blocks are located between El Tigre and Pariaguan, in Anzoategui state. Two of them offset Mene Grande's Elefantes and Yopales fields.

Stekoll will work over and test three existing wells on one of its new blocks.

The wells were drilled to depths of between 4,500 ft. and 5,000 ft. in 1940 and 1948. Two of them tested 27-gravity crude, and the other 15-gravity.

The company is looking for other farmouts, and Venezuela may be ripe for this type of operation, since taxes put more properties in the marginal category for the big companies.

Stekoll specializes in acquisition and development of producing properties. It operates in the U. S. and Canada, and recently started work on a new concession in Australia.

New Egypt Fields to Go On Stream

(By cable from Petroleum Week's Middle East Bureau)

CAIRO—Egypt's state-owned General Petroleum Co. expects to start producing a possible 8,000 b/d from its newly discovered Bakr and Karim fields in September.

Minister of Industry Aziz Sidki announced that this will follow completion of gathering lines, storage tanks, and pumps.

Sidki said the Bakr field, on the west coast of the Gulf of Suez near Anglo-Egyptian Oilfield's major field at Ras Ghareb, now has six producing wells.

No. 12 Kerim, west of Ras Ghareb, also appears to be a producer, he said, in a formation similar to that at Ras Ghareb. Tests are continuing to determine the thickness of the zone, and the rate of production.

The company also plans to start exploratory drilling within three months in three new areas of its concession along the Gulf of Suez.

Drilling will start with the delivery of two new drilling rigs from West Germany and four from the Soviet Union. They are slated to arrive in July and August.

The General Petroleum Authority recently bought Sahara Petroleum Co.'s rig and other exploration equipment in the Western Desert after that company gave up its concession (PW—Oct.31'58,p11).

An offshore drilling barge is also slated to arrive in the Gulf of Suez before the end of the year, it was announced here. Cie. Orientale de Petroles d'Egypte, owned by the Egyptian government, Petrofina, and Agip Mineraria, is slated to bring in the barge from Italy. Agip is now using a U.S.-built platform to drill off Sicily.

U.S. Firms' Big Stake in Europe Pipeline

U.S. oil companies will hold the biggest interest—possibly 36.4%—in the $110-million to $120-million Mediterranean-Rhine pipeline, PETROLEUM WEEK learned this week (PW—Jul.10'59,p14).

The line is slated to be put into operation in 1963 by South European Pipeline Co., which includes among its stockholders 16 U. S. and European oil firms and their subsidiaries.

Jersey Standard is currently expected to hold 28%, the biggest single share, with Socony due for 5.6% and Caltex 2.8%, according to unofficial sources. Final agreements, however, have not been signed.

As the proposed breakdown stands now, the Royal Dutch Shell group will have 23.2%, and British Petroleum 8%. In addition, one Belgian and three French firms will have a total of 20%, and four German companies a total of 12.4%.

The pipeline will probably be about 30 in. in diameter. It will carry crude from Algeria, Libya, the Middle East to four new refineries. Of these, two will be built in Strasbourg, northeast France, and two in Karlsruhe, south Germany.

What's New / AROUND THE WORLD

MEXICO—Pemex has announced it will offer limited help to other Latin American countries trying to start their own oil industries. The government oil agency said it has already agreed to help Ecuador, and will send some geologists and technicians there.

•

ETHIOPIA—Yugoslav geologists and petroleum engineers have been contracted for by the government to explore offshore and on islands off the coast of Eritrea, which is federated with Ethiopia.

•

LIBYA—A West German firm, owned partly by Esso and Shell, has been awarded a 5.2-million acre concession in the northern Fezzan. Gewerkschaft Elwerath has already started surface work.

•

DENMARK—Oil demand climbed 14% last year, to almost 80,000 b/d. This makes Denmark's per-capita consumption the second-highest in Europe, after Sweden's, Dansk Esso reports.

•

MALAYA—Caltex is planning to market a larger range of products here in connection with a multimillion-dollar construction project. New products include gasoline, kerosine, automotive diesel oil, and light industrial fuel. Modern service stations and inland depots will be built, and ocean terminals will be set up at Port Swettenham and Prai.

•

JAPAN—Maruzen Oil Co.'s $7-million loan from Union Oil Co. of California for refinery expansion was approved last week by the Finance Ministry (PW—Jul.10'59,p22). And approval of a Caltex application to invest $5.5-million in Nippon Petroleum is expected at the next Foreign Investment Council meeting July 23.

•

ARGENTINA—The government's YPF is finalizing plans for a new 5,000-6,500 b/d refinery at Aguaray, Salta province—only a few miles from the company's Campo Duran oil fields.

•

ISRAEL—A new $9-million oil exploration company has been set up by the Inter-Ministerial Committee on Economic Affairs because of the relative lack of private capital interest in oil exploration here.

Mekoroth Oil will be owned two-thirds by the government, and one-third by Hevrat Ovdim, holding company of the General Labor Federation.

•

VENEZUELA—Venezuelan Sun has renounced a 25,000-acre exploration concession along the Colombian border, in Apure state. The concession was shared with Pan Venezuelan, Venezuelan Atlantic, and Seaboard. Pan Venezuelan also renounced a similar concession.

•

LEBANON—Iraq Petroleum Co. has set up Lebanon Refining Co. to take over its 10,000 b/d Tripoli refinery and all of IPC's refining rights and obligations in Lebanon. Establishment of the company, owned by shareholders of IPC, was stipulated in one of the three agreements recently signed between Lebanon and IPC (PW—Jun.12'59,p51). In Lebanon, IPC will now be merely a pipeline company, and this, it hopes, will reduce its involvements in local and personnel problems.

•

They Line Up in Spain

Spain's Direccion General de Minas y Combustibles opened its doors on time last Friday to accept applications from local and foreign oil companies for rights in Spain, the Spanish Sahara, and Spanish Guinea, in line with the new oil law.

The companies that lined up, in order of arrival: Union Oil of California, Atlantic Refining, Ansonia Mineraria, Campsa, Ciepsa, Phillips, Esso, Petrolifera Iberica, Texaco, Champlin, Spain's INI, and Gulf Oil. The next day, Sinclair, Tidewater, Richfield, Conorada, Cities Service, Caltex, and Agip Mineraria were there. Superior and Ohio Oil are also said to have filed bids.

According to a government spokesman, interest is centered on the Spanish Sahara, which got 135 applications. Mainland Spain got 66, and Guinea 2.

First Dry Hole At Hassi Messaoud?

ALGERIA—The Sahara's Hassi Messaoud field may have its first dry hole, if the first test of MD-21, in the southwestern part of the field, is any indication.

Beyond the fact that the test was dry, no other information was available in Paris. According to French technicians, however, the test result may be due to a fault in the structure. The first test of the well is not conclusive, they say, and others will be carried out. The field now has 37 producing wells out of 38 drilled.

Wildcats in the News

ALGERIA—The first wildcat involving U. S. companies is under way in the Sahara. The Safrep group, including Sinclair Oil and Newmont Mining, is drilling below 3,000 ft. in its No. 1 Erg Bourahet, which is located about 50 mi. west of the Edjele oil field, and 6 mi. south of Tiguentourine.

SICILY—Encouraged by a "sizable" oil show in its first offshore wildcat, Italy's ENI has started a second test from its mobile platform—the Scarabeo. The new test is 1 mi. east of the first, and 1 mi. offshore from ENI's Gela field.

GUATEMALA—Shell Oil is drilling below 2,800 ft. in its first wildcat. No. 1 Laguna Blanca is about 3 mi. northeast of San Francisco.

COLOMBIA—Cities Service announced a third producing well on its Las Monas structure. It produced 35-gravity oil at the rate of 800 b/d through perforations in 99 ft. of scattered pay between 4,700 ft. and 6,372 ft.

What's in Petroleum Week for Production Managers?

A PRODUCTION MANAGER finds plenty in Petroleum Week. For Petroleum Week broadens the horizon of more than 45,000 men in the oil industry, at all levels and in all segments. It's the magazine where busy oil men keep informed, where they get up-to-the-minute reports on the news, technical developments and trends that affect their daily activities. Out of this information they acquire the industry perspective so vital to doing a good job.

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Regional production manager for major oil company photographed near Houston by W. D. Murdy.

DEPT/Personals

J. T. HIGGINS has been appointed vice-president, a director, and general manager of manufacturing for Standard Oil Co. of California, Western Operations, Inc., San Francisco. He succeeds **Fred Powell,** who was recently named president and chief executive officer of California Chemical Co., a Standard subsidiary. In his new position, Higgins will coordinate manufacturing activities at Richmond, El Segundo, and Bakersfield, Calif., and at the new refinery presently under construction at Honolulu, Hawaii. Higgins joined Standard in 1929, when he went to work for its subsidiary, California Research Corp., at El Segundo. In 1953 he was appointed president of Salt Lake Refining Co. and Salt Lake Pipe Line Co., both Standard subsidiaries in Utah. Higgins returned to San Francisco in 1956 as assistant general manager of manufacturing for Western Operations. **N. T. Bogart,** formerly manager of operations at El Segundo, has become assistant general manager.

J. T. Higgins

J. C. Posgate

JAMES C. POSGATE becomes manager of Humble Oil & Refining Co.'s crude oil department, with offices in Houston. Posgate, formerly assistant manager of that department, succeeds **Donald F. Haynes,** who is retiring. Posgate joined Humble's production department in 1933. In 1947 he became division petroleum engineer for the eastern division, at New Orleans. After a year in the Houston office as assistant chief petroleum engineer, he was named assistant division superintendent, eastern division. He held that position until his promotion to assistant manager of the crude oil department.

EUGENE T. ADAIR, president of Texas Pacific Coal & Oil Co., Ft. Worth, has been named a director of Central Airlines.

E. L. Raun

M. D. Haynes

M. DAVID HAYNES moves up to assistant manufacturing manager of Tidewater Oil Co.'s eastern division, and **E. L. RAUN** succeeds him as superintendent of Tidewater's Delaware refinery. Haynes started with Tidewater in 1935 as a development engineer in the research and development department at the old Bayonne (N. J.), refinery. In 1954 he was assigned to the special Tidewater group which was responsible for the design of the Delaware refinery. In 1956 he became superintendent of crude, coking, and cracking operations in Delaware. He has been refinery superintendent there since 1957. Raun, with Tidewater since 1934, moved to the Delaware refinery in 1956. In July of that year, he was named superintendent of alkylation, polmerization, reforming, and extraction operations. Earlier this year, he was assigned, on a rotational move, to be superintendent of crude and cracking. At the same time, he was also made responsible for coking operations. Four other personnel changes in Tidewater's Delaware manufacturing operations are: **Ray Harrison,** on special assignment on petrochemical development; **Lloyd E. Forbes,** superintendent of utilities, oil dispatching, and sulfur recovery; **Eric R. Westfield,** supervisor of economic development; and **Charles H. Bennett,** staff assistant to the manufacturing manager.

MORRIS PREIDIKMAN has joined Vickers Petroleum Co. as assistant process engineer in the technical division. His responsibilities will include plant modernization and expansion of Vickers' Potwin (Kan.) refinery. Preidikman was formerly engaged in pilot plant development work for Gordon Lacey Chemical Products Co., New York. Before that, he was junior process engineer at the Esso S.A.P.A. refinery, in Campana, Argentina. At the same time, **W. L. Caldwell** has been named project leader in charge of development projects at Potwin. **J. M. Hazen,** chemist, has also been assigned to the Potwin development group.

K. H. SHAFFER, president of Standard Oil Co. of Texas, has been named state chairman of the oil information committee of the Texas Mid-Continent Oil & Gas Assn. Shaffer, formerly state vice-chairman, succeeds **G. T. Pearson,** Continental Oil Co., who now heads Conoco's Canadian operations.

J. T. McDonnell

H. E. Redd

JOHN T. McDONNELL and HENRY E. REDD have new assignments in Gulf Oil Corp.'s petrochemical department. McDonnell has been promoted to director of commercial plans, with headquarters in Gulf's general offices in Pittsburgh. He joined Gulf in 1957 and, at that time, established Gulf's Houston petrochemicals sales office. Before 1957, he was a member of Warren Petroleum Corp.'s research sales staff. Redd transfers from Pittsburgh to Houston as Gulf's chemical marketing representative for the Gulf Coast area. He joined Gulf's petrochemical department at Pittsburgh, in 1956. Before that, he was in the research department of Virginia Carolina Chemical Corp.

ROBERT E. ROEHL has been granted a one-year leave of absence from Cities Service Co., New York, to serve as coordinator of transportation for the Interior Dept.'s Office of Oil & Gas, in Washington, D. C. **Charles Waidleich** succeeds him as assistant to Cities Service's manager of transportation and supply.

RICHARD L. BLUNDEN is general manager of Honolulu Oil Corp.'s newly created northern Rocky Mountain division. He was formerly manager of Honolulu's engineering department. Blunden will take over exploration and production operations formerly conducted by **P. E. McGovney** and **F. M. Cole,** vice-presidents.

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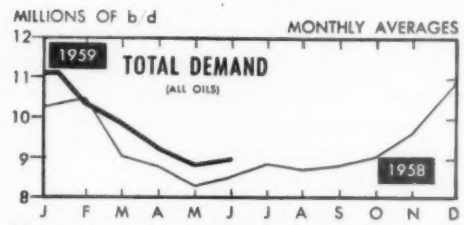
PETROLEUM WEEK'S

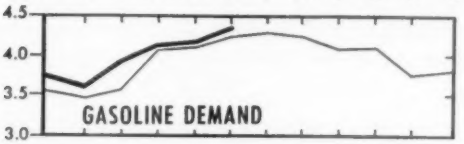
Fingertip Figures



Figures for period ended July 10, except as noted

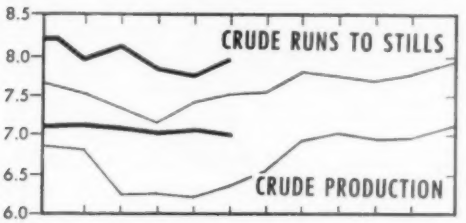
TOTAL DEMAND

Latest 4-week average	8.960
Year ago	8.574



GASOLINE DEMAND

Latest 4-week average	4.455
Year ago	4.291

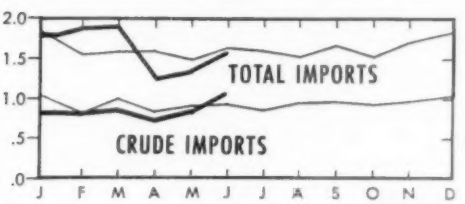


RUNS TO STILLS

Latest week	7.836
Previous week	7.936
Year ago	7.607

CRUDE PRODUCTION

Latest week	6.802
Previous week	6.913
Year ago	6.439

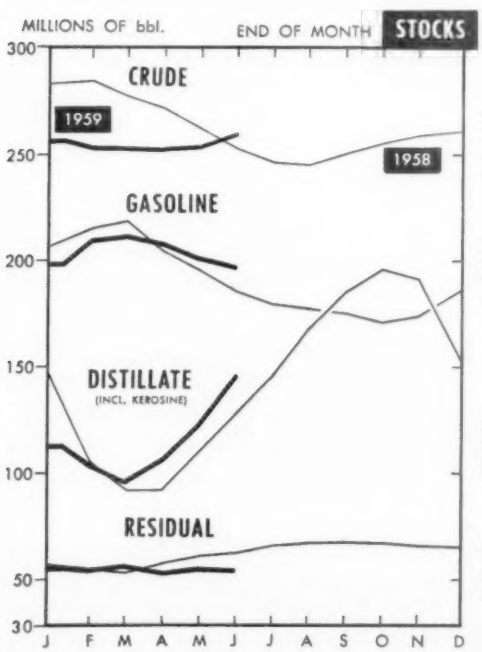


TOTAL IMPORTS

Latest week	1.799
Previous week	2.056
Year ago	1.409

CRUDE IMPORTS

Latest week	.912
Previous week	1.538
Year ago	.921



CRUDE STOCKS

Week-ended 7-4	273.1
Previous week	270.4
Year ago	252.8

GASOLINE

Latest week	192.8
Previous week	195.0
Year ago	182.2

DISTILLATES

Latest week	154.3
Previous week	148.7
Year ago	134.5

RESIDUAL

Latest week	54.3
Previous week	54.4
Year ago	66.2

Gasoline stocks dropped another 2.2-million bbl. last week, to less than 193-million bbl. Refiners kept their refinery runs around 7.8-million b/d in an attempt to eliminate the oversupply. With gasoline production averaging 4-million b/d and demand bettering 4.4-million b/d, refiners can count on a drop in supplies of about 400,000 b/d, or almost 3-million bbl. each week.

If refiners hew to steady refinery runs of 7.8-million b/d, gasoline stocks may drop below last year's levels some time next month. On Labor Day last year, for example, gasoline stocks totaled 174-million bbl. That's 19-million bbl. below present levels. With Labor Day almost two months off, refiners could drop their gasoline stocks below last year's level just by cutting stocks by 2.3-million bbl. a week.

With this steady improvement in stocks, refiners and marketers may be able to look forward to firmer prices.

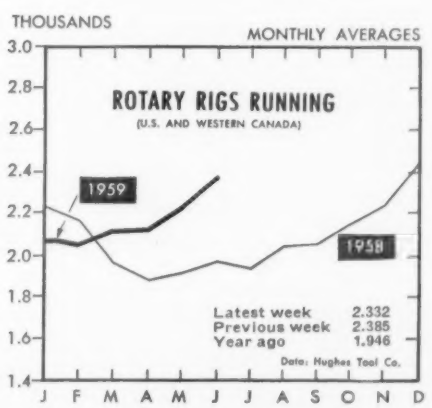
Gulf Coast spot market prices have already taken a firmer tone, and some major marketers have increased prices in several sections of the country.

Despite the seemingly high total inventories of motor fuel, the actual supply in the Gulf spot market is reported to be held tight.

One unknown influence on demand for the rest of the summer is the steel strike that started this week.

A long steel strike would, of course, have a major influence on demand for all petroleum products.

But even a short stoppage could have a substantial impact on gasoline demand in the remaining few weeks of the "peak" gasoline consuming season.



The Market Trend

Gasoline: Some Hope for a Late Starter

The inventory figures on gasoline don't tell the whole story. On paper, there is still a surplus. The difference this week is that the product is in much steadier hands.

Beginning sometime early this month, it has been hard to find a Gulf Coast refiner in trouble because of surplus motor fuel. Ever since early spring, Southwest refiners had been playing musical chairs to see who would dump the next cargo. But recently four buyers got active, and the "float" of weakly-held gasoline disappeared.

The reversal toward strength in gasoline wasn't entirely spontaneous, and it will take some going to get it spread through the Midwest. Runs were cut at some plants. Shut-downs for clean-out were moved up from August to July at others.

Of course, you can pose the argument that "something always happens" to bail refiners out of inventory troubles. For some reason, refiners appear to be constitutionally unable to close gate valves. So it usually takes a strike, a fire, or an international incident to do the job for them. Recent strikes at Texas City, Tex., Sugar Creek, Mo., and El Dorado, Ark., plus fire damage at Whiting, Ind., all cut into prompt gasoline supplies.

If real strength in gasoline develops, it will probably start from the Upper Gulf Coast and work up the Mississippi River. A hint of this came last week, when sellers stiffened their ideas at Arkansas City and West Memphis. Mid-Continent refiners are trying to get a bigger differential on branded pipeline sales over unbranded spot. Retail price wars in the Upper Midwest have abated, too.

Of course, there's always the chance that the improvement in gasoline may be too little and too late. At the Gulf, July gasoline may be in firm hands, but August offerings appear fairly plentiful. In another 30 days, the gasoline that is talked for early lifting won't reach consumers before fall.

Hearing of a temporary break-down at a Houston refinery last week, a marketer quipped, "I hope it's nothing trivial." For gasoline can still use all the help it can get.

No. 6: Split Personality:

Heavy fuel is weak on the Atlantic seaboard, firm at the Gulf, quite strong for low-sulfur material at lake ports, and very soft on the West Coast and in the Caribbean. It's downright cheap in the Persian Gulf, with some spot cargoes going close to $1.00 a bbl.

The difference between Gulf Coast and New York is most marked. Offerings in cargo lots are hard to find at the Gulf. Even a long steel strike probably wouldn't shake loose much 1% sulfur product. On the other hand, ordinary fuel at New York is almost down to "cargo price into trucks" ($2.00-$2.09).

Another Hike In Ship Rates?

Owners of U.S.-flag tankers still think that a strong rise in rates may be coming soon. But they're snagged right now at USMC—20% for clean spot voyages up the coast. And that is barely a break-even operation for even the most economical shipowner.

The Market Place AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All prices as of July 13

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U. S. Gulf Coast, cargoes
- **Gasoline, 98 oct prem** ..... **11.875†-13**
- **Gasoline, 92 oct reg** ..... **10.75†-11.5**
- Kerosine 8.5-10.375
- Heating oil, No. 2 ..... 8.125-9.875
- Gas oil, 48-52 d.i. 8.25-10.125
- Fuel oil, bunker "C" $2.00-2.10

Caribbean, cargoes
- Avgas, Grade 100/130 ..... 15.25
- **Gasoline, 93 oct research prem** ..... **10.75-11†**
- **Gasoline, 87 oct research reg** ..... **9.875-10.125†**
- **Gasoline, 79 oct research** ..... **9.125-9.375†**
- **Gasoline, 70-72 oct motor method** ..... **9-9.25†**
- Kerosine 9
- **Heating oil, No. 2** ..... **8.125↓-8.25**
- **Gas oil, 48-52, d.i.** ..... **8.25↓-8.5**
- Fuel oil, bunker "C" $2.00

New York Harbor, barges
- Kerosine 9.65-9.9
- Heating oil, No. 2 ..... 9.15-9.4
- Fuel oil, No. 6 ..... $2.37

Okla-Group 3, northern shpt., bulk
- Gasoline, 91 oct reg 11-11.75
- Kerosine 9.75-10.25
- **Heating oil, No. 2** ..... **8.5↓-9**
- Fuel oil, No. 6 ..... $1.60-1.80

Chicago, bulk
- **Gasoline, 91 oct reg** ..... **11.5-12†**
- Heating oil, No. 2 ..... 9.5-10.85
- Fuel oil, No. 6 high sulfur 7.4-7.5

Los Angeles, rack
- Gasoline, 88 oct reg 12.5-12.65
- Diesel fuel, PS 200 ..... 8.5-11.25
- Light fuel, PS 300 ..... $2.80
- Heavy fuel, PS 400 ..... $2.15-2.35

Natural Gasoline, Grade 26-70
- FOB Group 3 ..... 4.5
- FOB Breckenridge, Tex. 4

LP-Gas
- Propane, Oklahoma (Group 3) 4
- **Propane, Baton Rouge** ..... **4.625-4.875↓***

Pennsylvania Lubes
- Bright stock, 25 p.t. 22
- **200 vis. neutral 25 p.t.** ..... **23†**

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent 95 v.i. 23-24
- Neutral, solvent, 200-210 vis 19.5-20.5

Gulf Coast Lubes
- Bright stock, solvent, 95 v.i. 24
- Neutral, solvent, 200 vis 20.5

**Effective July 13.*

Eastern Hemisphere

Singapore (Pulau Bukom), cargoes
- Avgas, grade 100/130 ..... 16.5
- Gasoline, 79 oct research 9.75
- Kerosine 10.75
- Gas oil, 48 d.i. minimum 10.125

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9 ..... $2.77-2.97
- North Dakota, 36.0-36.9 ..... 2.62-2.87
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9 ..... 3.50
  - Gulf Coast, Upper & Lower, 26.0-26.9 ..... 2.92-3.22
  - West Texas, sweet, 36.0-36.9 ..... 3.00
  - West Texas, N. M., inter., 36.0-36.9 ..... 2.93
  - West Texas, N. M., sour, 32.0-32.9 ..... 2.71
  - East Texas, flat 3.25
  - Mirando, 28.0-28.9 ..... 3.31
- Illinois Basin, flat 3.00
- Pennsylvania Grade, Bradford dist., flat 4.25
- California, Signal Hill, 21.0-21.9 ..... 2.50-2.54‡
- North Louisiana-Arkansas, 36.0-36.9 ..... 2.77-3.02
- Wyoming, sweet, 36.0-36.9 ..... 2.85-2.90
- Wyoming, sour, 32.0-32.9 ..... 2.63-2.71

Canada (flat prices, at the well)
- Pembina (Alta.) 2.38
- Leduc-Woodbend (Alta.) 2.53
- Redwater (Alta.) 2.42
- Steelman A (Sask.) 2.435
- Virden (Man.) 2.31

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 47.0-47.9, Tucupido $3.34
- San Joaquin, 41.0-41.9, Puerto la Cruz 3.10
- Oficina, 35.0-35.9, Puerto la Cruz 2.78-2.80
- Tia Juana, Medium, 26.0-26.9, Amuay 2.30
- Bachaquero, flat, Las Piedras 1.73-1.88
- Tarra, 38.0-38.9, San Lorenzo 2.83
- Lagunillas Heavy, flat, Cardon 2.10

‡Differential per deg. of grav. varies.

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabia, 34.0-34.9, Ras Tanura $1.89-1.90
- Safaniya, 27.0-27.9, Ras Tanura 1.50
- Iran, 34.0-34.9, Bandar Mashur 1.86-2.04
- Iran, 34.0-34.9, Abadan 1.81
- Iraq, 35.0-35.9, Fao 1.80
- Kuwait, 31.0-31.9, Mina-al-Ahmadi 1.67
- Qatar, 41.0-41.9, Umm Said 2.05
- Neutral Zone, Burghan, 23.5-24.4, Mina Saud 1.51
- N. Zone, Eocene-Ratawi, 20.5-21.4, Mina Saud 1.38

Middle East, Eastern Mediterranean
- Arabian, 34.0-34.9, Sidon $2.27
- Iraqi, 36.0-36.9, Tripoli, Banias 2.31

Far East, Cargoes, FOB Lutong, Sarawak
- Seria Light, flat $2.57

KEY TANKER RATES

(Last paid, per long ton, single voyage)

- **U.S. Gulf-New York, clean (USMC—20%) $2.28↓**
- **U.S. Gulf-New York, dirty (USMC—25%) $2.14†**
- **NWI-USNH, dirty (USMC—55%) $1.24†**
- NWI-UK/Cont., dirty ..... (Scale—30%) 22/9*
- Persian Gulf-UK/Cont., dirty ..... (Scale—70%) 20/10*
- Persian Gulf-USNH, dirty ..... (USMC—75%) $3.18

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DEPT/Service & Equipment Companies

GEORGE L. REID has been named to the newly created position of administrative assistant to **J. V. Spalding**, general manager of sales for Bethlehem Steel Co., Supply Division, in Tulsa. **C. R. McNair** has been named sales manager, production equipment, for the Supply Division, and **F. C. Underwood** sales manager, secondary recovery equipment. In his new position, Reid will act as liaison between the sales and manufacturing departments, and will coordinate the efforts of both departments. Reid, with Bethlehem for over 20 years, was most recently assistant manager of machinery sales on production equipment. McNair, with the company since 1948, had been district manager of the West Texas-New Mexico district at Midland prior to his new assignment. Underwood has been machinery sales representative for the Supply Division in Tulsa since 1951. He has been involved in the sale of secondary recovery equipment and on waterflooding projects since he joined the Bethlehem organization. He will now head the newly created department on secondary recovery equipment sales.

G. L. Reid

A. H. Edwards

ARVID H. EDWARDS has been appointed advertising manager of Black, Sivalls & Bryson, Inc., Kansas City, Mo. Edwards, who has been a member of BS&B's advertising staff since 1948, has worked in all areas of the company's promotional activities. Last year, he was named assistant advertising manager. **John H. Boetjer,** formerly supervisor of publications, has been named advertising supervisor, controls division. **J. D. Hughes,** formerly a member of the publications section, has been appointed advertising supervisor, steel products division.

C. H. THURBER, research vice-president of Empire Geophysical, Inc., now directs the company's velocity computation section, which recently moved to the headquarters office in Ft. Worth. It had formerly been located at the company's division office in Odessa. Chief computer **Bill Latson** is operating head of the computation section. The section will serve Empire's logging stations in the Rocky Mountain area, the Permian Basin area, the Gulf Coast area and the one recently established in Jackson, Miss.

A. R. (Pat) PATTON is the division special sales representative in New Orleans for the Security Engineering Division, one of the Dresser Industries. He was most recently district sales manager in eastern Venezuela for Security International C.A. Before that, he was superintendent of bulk cementing in eastern Venezuela for Halliburton Oil Well Cementing Co.

J. K. MEAGHER transfers from Dallas to Houston as sales representative in the lower Texas Gulf Coast area for the Baroid Division of National Lead Co. **N. S. Wood,** formerly with Baroid in Calgary, replaces Meagher as sales representative in Dallas.

NEW MEMBERS of the Los Angeles Chapter of Nomads were inducted at the chapter's meeting last month. Six new Nomads shown between **Taylor Bannerman,** Technical Oil Tool Corp., ritual master, left, and **Lee Laird,** Ladish Co., assistant ritual master, right, are (l. to r.): **John Cochran,** Driltrol; **Neal Thompson,** Ken Corp.; **Louis Smith,** Chiksan Co.; **Bob Thompson,** Servco Corp.; **Joe Douglass,** Gardner-Denver Co.; and **Clayton Rose,** Monarch Engineering Co.

W. ROY DAVIS is the new manager of the pressure control equipment division of Cameron Iron Works, Inc., Houston. Davis was formerly sales manager of Cameron's valve and oil tool division. The pressure control equipment division consolidates the manufacture, engineering, and sales of all Cameron pressure control products, including well heads, blowout preventers, valves, and instruments. **John H. Grubb** continues as manager of the international division, which has responsibility for equivalent activities outside the United States.

W. R. Davis

C. E. Caldwell

CHARLES E. (Pete) CALDWELL has joined Electrodynamic Instrument Corp., Houston, as system sales manager. He was formerly assistant general manager of Clevite Corp., Texas Division. In his new position, Caldwell will be in charge of the company's sales of seismic data reduction systems, magnetic recording equipment, and custom instrumentation systems.

W. N. Estel

C. E. Mangold

C. E. MANGOLD and **W. N. ESTEL** have been named assistant general managers of the Dowell Division of Dow Chemical Co., in Tulsa. Mangold will continue his activities in cost control, and Estel in personnel management. Mangold will head Dowell's industrial department including the company's missile program. He will also provide management assistance to the Shreveport district which serves the Ark-La-Tex area, and to the industrial region served from Dowell's Cleveland office. In his new assignment, Estel will also represent management in the oil field area serviced by Dowell, excluding Oklahoma, the Rocky Mountian region, the Gulf Coast, and Canada. He will work with district managers in Evansville, Wichita, Midland, Amarillo, and Wichita Falls. **W. E. Reardon**, vice-president and a Dowell director, will provide management assistance to Oklahoma, the Rocky Mountain states, the Four Corners area, and Dowell of Canada, Ltd. Mangold, Estel, and Reardon are all members of the Dowell operating board. **L. B. Swan**, Dowell vice-president and a director, will provide management assistance in the Gulf Coast district. He will also head Dowell's foreign business from headquarters in Houston. Mangold has been with Dowell since 1932. He was most recently manager of cost control. Estel joined Dowell in 1940, and was most recently director of personnel. **H. R. Briscoe**, formerly personnel development manager, assumes some of Estel's former activities with the title of personnel manager.

PHILIP L. JORDAN has been appointed manager of imports for Oil Country Supply Co., Tulsa. For the past eight years, Jordan has been in the foreign department of Lucey Products Corp., Tulsa. Before that, he was associated with Creole Petroleum Corp. in Venezuela, and was materials superintendent for International Petroleum Co., Ltd., in Talara, Peru.

P. L. Jordan

B. D. Coyle

B. D. COYLE has been named sales representative in the home office of Midwestern Pipe Line Products Co., in Tulsa. He was a member of F. H. Maloney Co.'s sales staff before he joined Midwestern.

THOMAS E. McELROY is the new president of Pelican Supply Co., Shreveport. **Morley A. Hudson** is vice-president, and **A. W. Adkins** is secretary-treasurer. The three officers will also serve as directors.

HARRY D. REEB has been named vice-president of Western Oil Tool Co., Casper, Wyo. **Jack Simeone**, who joined Western last year, succeeds Reeb as general manager.

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Easiest way to file and find confidential maps, tracings, blueprints. Quality metal cabinet file with locking doors. 112 tilting tubes handle 60" prints. Tubes indexed for quick location. Ideal for field and home offices. Shipped from stock.

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The Industry's Foresight Pays Off

FOR THE SECOND TIME in recent months, foresightedness and quick action by oil men have produced handsome results for the industry.

Chief credit for the latest accomplishment belongs to the men who spotted and promoted action on a July, 1956, newspaper report from Rome, where a cancer symposium had raised the grim possibility of carcinogens in petroleum paraffins.

They wasted no time when preliminary tests made several waxes suspect: Under the aegis of the American Petroleum Institute, a thorough-going research project was quietly launched to determine the facts and the hazards—if any.

API allotted a half-million dollars for the project and put its best brains to work. Its research contract called for both chemical and biological tests, to explore every angle.

SEVERAL WEEKS AGO, ominous reports—based on the preliminary tests—began to appear in the public press. These reports—lifted out of perspective and subjected to misinterpretation—implied that wax-impregnated containers could be dangerous because cancer-producing agents had been found in some petroleum waxes.

Fully aware of the impact on the public, and alarmed that the situation could get out of hand, the industry corralled its new data and took its case to Arthur S. Flemming, Secretary of Health, Education & Welfare. They calmly pointed out that in only one isolated case had scientists found more than a minute trace of a carcinogen in a petroleum paraffin.

They rested their argument on pure scientific findings—nothing more, nothing less.

THE PAYOFF CAME when Flemming voluntarily called a press conference and issued a statement scuttling the disquieting reports and easing the fears of the public. The net result was that a nasty situation was headed off before it could develop into a cause for national concern or legislative action.

Not long ago, petroleum ran into another ticklish problem in Washington, also based on a misunderstanding. This one involved smog and air pollution. Concerted action by API and other associations, plus documented facts and figures, resolved that one in a hurry, too.

Commendations are in order for the industry, and particularly API, for the firmness and dispatch with which these two cases were treated.

BEHOLD THE HANDS OF TIME . . .

Time is only a measure—in man, it defines the milestones of progress—Birth, growth and contributions to the community of mankind. In a company, time records not only a measure of birth and growth, but by each passing year, it reflects the position in the community of commerce that has been achieved.

Our time measure is now 35 years . . . from the early days of "Hard knocks and trial by error" to today's world wide establishment of services, equipment, products and men at the highest degree of technological knowledge.

With pardonable pride, we too, reflect on the spirit of wholesome and friendly cooperation we have enjoyed with the oil industry over this span of time. Thanks to your confidence, our 35th birthday is but a landmark on the progressive road to a more profitable future.

HALLIBURTON OIL WELL CEMENTING COMPANY

DUNCAN, OKLAHOMA

HUGHES SERVICE can help you cut drilling costs

■ As an example, take the cases of companies drilling deep wells in the Gulf Coast area and an operator drilling shallow wells in Oklahoma:

The companies drilling in the Gulf Coast were having great difficulty in penetrating certain porous formations. Occasionally, they were able to make only a few feet a day.

Hughes engineers were consulted because of the company's extensive high pressure drilling research in which conditions existing in deep wells were simulated. Operating changes made as a result of the joint analysis of the problems by the Hughes engineers and the operators resulted in greatly reducing the drilling time of the deep wells. The savings to the operators amounted to several hundred thousand dollars.

The Oklahoma operator was drilling in a shallow field near Perry. He had lowered his costs to what he considered rock bottom, but decided to let Hughes develop an *engineered bit program* for his next well. This included recommending the types of bits to be run, weight, r.p.m., and hydraulics. The result: reduction of drilling time from 206 hours to 166 hours, with fewer bits. The saving, $1880.

In between the two extremes are scores of cases of substantial savings made by operators who have followed HUGHES *engineered bit programs.* This service is available to all operators . . . in all fields . . . for the asking. It is based on the industry's greatest rock bit experience and on the industry's most extensive and consistent research.

That's why we can say that Hughes *Service* and Hughes *Bits* make an unbeatable combination.

HUGHES TOOL COMPANY

50TH ANNIVERSARY YEAR 1909 – 1959

DUNCAN, OKLAHOMA